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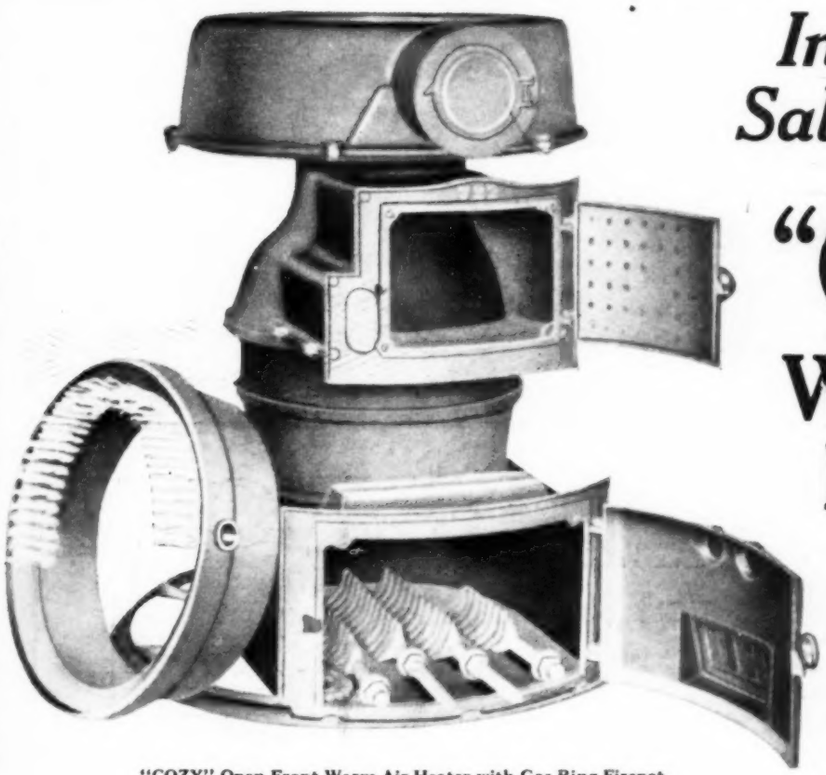
AMERICAN ARTISAN and Hardware Record

VOL. 74. No. 5. CHICAGO, AUGUST 4, 1917. $2.00 Per Year.



"COZY" Open Front Warm Air Heater with Gas Ring Firepot, Duplex Grates lying in Ash Pit.

Increase Your Sales and Profits

WITH THE

"COZY" WARM AIR HEATERS

Many other dealers are doing so. Why not you? Make it a point to write us today while our message is fresh in your mind.

Unequaled Satisfaction Guaranteed

That's what you can say in offering the **"COZY" WARM AIR HEATERS** to your customers, for they are reliable, modern and of proven, unquestioned merit. Note these strong points of merit.

A Gas Ring Firepot is furnished with the **"COZY" WARM AIR HEATERS** if wanted, so that gas or coal may be used without any changing. Gas can also be used to start the fire instead of kindling. Full cast front, very neat. Large Ashpit and Door. Duplex Grates. These and many other features are what have brought the **"COZY" WARM AIR HEATERS** to the front. Have the agency for the **"COZY" WARM AIR HEATERS** and be assured of **Good Business** and **Satisfied Customers.**

OUR COMPLETE CATALOG ON REQUEST—WRITE FOR IT TODAY

SCHILL BROTHERS COMPANY

CRESTLINE, OHIO

ALPHABETICAL INDEX AND CLASSIFIED LIST OF ADVERTISERS, 48 and 49.

COAL RANGES

THE ONLY REAL RUST PROOF RANGE

RINGEN STOVE CO.
DIV. OF AMERICAN STOVE CO.
ST. LOUIS, MO.

THE BODY and all FLUES, exposed to Smoke and Soot are PORCELAIN ENAMELED
NO RUST! - NO BLACKING! - ALWAYS CLEAN!

SAN FRANCISCO, CALIF.
715 INDIANA ST.

The FRONT RANK Club

TRADE NAME REGISTERED

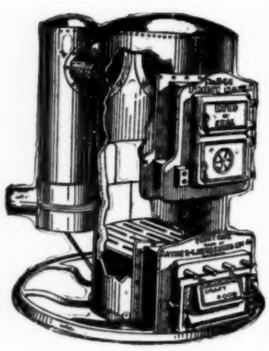
Have you joined it?

The most wide awake dealers all over the country are joining; and if you haven't already done so, you'd better join now--- while there is a chance. Get "in" on the

FRONT RANK Steel Furnace

which is called the "fool proof" furnace because it is so simply yet scientifically built that even an unskilled operator doesn't get into trouble with it; which burns any kind of fuel, and gets more heat value from it because it has the longest fire travel; which stays in order, has no direct draft to warp and buckle---and which makes a booster out of every user.

Ask us about the FRONT RANK School Heater and Ventilator. It sells at sight to any modern School Board.



The FRONT RANK Service

would make the dealer's work easy if he were selling even an inferior furnace---say nothing about a superior article like the FRONT RANK Steel Furnace. We furnish the dealer attractive window and counter cards, with "pep" and "punch"; in them, calling attention to the FRONT RANK Steel Furnace. We give him store signs, that stir up trade, and are spending thousands of dollars in a National Advertising Campaign that will make the name of the FRONT RANK Steel Furnace a household term from sea to sea, and make it still easier to sell this splendid furnace.

Good bye! We're going home FRONT RANK is too hot for us.

TRADE MARK
REG. U. S. PAT. OFF.

APPROVED BY FRESH AIR HEAT MEANS HEALTH TRADE MARK

Take a straight tip from us: If you don't know what the "FRONT RANK Club" might mean to you in a business way, write to us, and find out.

Haynes-Langenberg Manufacturing Co.

4058 Forest Park Ave. St. Louis, Mo.

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ESTABLISHED 1880
Representative of
The Stove Tin Hardware
Heating and Ventilating Interests
PUBLISHED EVERY SATURDAY

AMERICAN ARTISAN and Hardware Record

Address all communications and remittances to
DANIEL STERN
Publisher and Proprietor
910 South Michigan Avenue
Chicago Illinois

TERMS OF SUBSCRIPTION IN THE UNITED STATES AND ITS POSSESSIONS (Invariably in Advance) ONE YEAR POSTAGE PAID $2.00
FOREIGN COUNTRIES ONE YEAR POSTAGE PAID $4.00 CANADA ONE YEAR POSTAGE PAID $3.00

Entered as Second-Class Matter June 25 1885 at the Post Office at Chicago Illinois under Act of March 3rd 1879

VOL. 74. No. 5. CHICAGO, AUGUST 4, 1917. $2.00 Per Year.

No Time to Stop Conventions.

WHEN the war broke out, many men in the various crafts took it upon themselves to urge the postponement or dropping entirely of the conventions which have been such a prominent feature for years in the different lines of business and trade. They did this with a view towards economy and towards a quicker termination of the war, but they failed to realize that in many instances the dropping of these conventions and meetings might have exactly the opposite effect. As a matter of fact, gatherings of business and tradesmen are doubly important now, because they serve to acquaint people with the unusual conditions of the present and how they may best be met.

In the past, business men could base their decisions and actions on precedent. Practically every circumstance that arose and called for action had had its counterpart in the few years previous, and it required relatively little attention on the part of the man in business to keep abreast of the times. But the war has worked radical changes. Prices have undergone tremendous revisions, demands have shifted and varied, new needs have arisen, old ones have gone. It is chiefly by getting the views of others in his line of business or expert students of conditions that the dealer can determine what policies he must best follow. And this is the primary purpose of conventions and other business meetings. Co-operation and sound advice are now doubly essential.

The Merchants' Association of New York, on learning of the tendency to postpone or forego conventions, wrote to President Wilson on the matter, suggesting that if he approved the continuance of these meetings, a public utterance to that effect would be of great influence. The President promptly gave out a statement saying that in his belief there is no sufficient reason for foregoing the holding of conventions and general commercial meetings by business interests.

The letter of the association presented the situation in an unmistakable manner and showed that the putting off of the business gatherings would have a detrimental rather than a beneficial effect. It reads as follows:

"It has come to the attention of The Merchants' Association of New York that there is a tendency to forego the holding of conventions and general commercial meetings by business interests of the country because of a desire to practice alleged economy during the war.

"In our judgment this is a false idea of economy, the application of which will be harmful, rather than beneficial, both to the government and to the nation's business. Such gatherings, in our judgment, should be encouraged rather than discouraged, because failure to hold them as usual is likely to create a false impression, to stimulate a lack of business confidence, and to discourage mutual co-operation, which is so necessary under existing circumstances. Conventions and gatherings of different trades and industries afford an exceptional opportunity on the part of business men composing them to study the effect of the war situation upon industries, so that they may be best equipped to serve the needs of the government and to serve the normal business of the country. Both business and general conventions also afford exceptional opportunities for patriotic gatherings and the fostering of patriotic sentiment.

"We, therefore, respectfully suggest that, if in your judgment the continuance of such meetings is beneficial, a public utterance by you to that effect would be of value and would have a marked influence both in stimulating such gatherings and in perpetuating the results flowing therefrom. *It seems to us that if ever the citizens of this country should get together, whether in business or in general organization meetings, it is during such a period as that through which we are now passing.*"

War Time Economies

IN THE COUNCIL of National Defense and various Government bureaus are a group of zealous patriots who are looking into the everyday habits of the average American citizens—not for the purpose of putting us to shame—but solely to see whether they can release men, money and energy for the limitless needs of present day humanity.

A world at war cannot tolerate sloth, waste or indulgence. Every needless activity must be suspended. This is the meaning of the patient examinations of the way we do things which are being pushed by the Commercial Economy Board of the Council. The Board believes that business cannot continue to render the elaborate service possible in time of peace and asks the voluntary service of every man and woman.

"In practically every trade," says a Bulletin of the National Chamber of Commerce on this subject, "there have grown up non-essential services, some of them mere conveniences and others hardly that. In time of peace they may be permissible. In time of war they are a serious waste and should be stopped."

The effective demonstration of the way we had been feeding tens of thousands of loaves a day of good

wheat bread to pigs and chickens through those terrible years when the Belgian, Serbian, Albanian and Armenian women and children were starving, has made some people ashamed. It is estimated that enough to feed 200,000 people was lost, entirely apart from the necessary expense of handling, and practically all bakers of the country are eliminating that waste.

The suggestion has also been made that the practice of returning goods to retail stores be severely curtailed. Like bakery returns, this privilege has sprung from the desire of stores to outdo one another in serving the public. It has developed until today the return of 15 to 20 percent of all goods sold is common. Every dealer knows that the returning of goods is far more expensive and involved a process than the purchase. Each article that is purchased and returned is said to go through nineteen hands in the transactions, and it is estimated that in New York City alone about five million dollars are wasted annually through the unreasonable return of merchandise.

The same Board which rallied the women to co-operate in saving the wasted loaves of bread is now calling on them to co-operate in another saving which is vastly greater, one which if properly conducted will free thousands of men and a tremendous amount of equipment to be used where they are really needed. This is in the matter of store deliveries.

It has been estimated that in our great cities the cost to the department and retail stores of delivering packages is from eight to twenty-five cents apiece, and the fact is that probably one-half of the daily purchases of the stores might be carried home by the customers themselves. Here is an opportunity for an enormous saving by carrying home parcels, avoiding duplication of service and reducing the number of deliveries.

There are not a few towns in the country where the delivery system has already been put on a rational basis by cooperative effort. Ann Arbor, Michigan, has had such a delivery conducted by its merchants for eight years. Formerly it had seventy wagons to carry home the daily buyings of the people—now it takes but eighteen. In other towns, there has been a saving in cost from twenty-five to seventy-five percent. Wherever a cooperative delivery has been well managed, it is said the average saving has been around fifty percent.

This, of course, means a reform in the method of ordering. One delivery a day is all that ought to be expected under the present conditions. If a woman knows that is all she will get, she will quickly and easily reform her ways, or carry her own bundles. An effort will be made to convince store patrons that a package under the arm is not in these times a thing to be ashamed of, but rather a mark of patriotism.

The matter of reducing deliveries is most directly connected to the purchase of foods, but the retailer of hardware and kindred lines also has plenty of opportunity to effect a material saving in the cost of deliveries. It is obvious that customers cannot take home a heavy or bulky article such as a stove, washing machine, ash can, lawn mower, wash tub, refrigerator, screen door or various other items, but it is possible for them to assist by carrying such small articles as a hammer or other tools, kitchen utensils, automobile accessories, cutlery, shovels, cans of paint, torches and other such items which they can take home. It is also possible for dealers to reduce the number of deliveries or to inaugurate cooperative delivery systems.

"Thank You."

WALKING along a prominent thoroughfare recently, the attention of the writer was attracted toward a tastefully dressed show window. There was something about it which made one stop and look, whether you wished to or not. It was evidently the work of one who was an expert and had an eye for the blending of colors and the arrangement of goods. One thing which impressed us most, however, was the neat card on which was printed: "THANK YOU FOR STOPPING TO LOOK IN THIS WINDOW."

This merchant had evidently made it a study to cater to the public eye and make his window a magnet to draw trade. The novelty of the salutation was such as to cause a second look and closer inspection of the goods on exhibition. He had the right idea about drawing trade, and the air of prosperity which pervaded the interior of the store after entering was such as to indicate that he had succeeded in so doing.

An attractive window display is the entering wedge to success; but how few merchants take the time or the pains to rivet the attention of the passers-by with a tactful showing of their merchandise. That there are many who believe in the drawing power of the window display is evident from the number of photographs published in AMERICAN ARTISAN AND HARDWARE RECORD from week to week of window displays which have won prizes or received honorable mention in its window display competitions, but a great number pay little attention to their window displays, being satisfied with placing a few miscellaneous goods in any position without regard to proper adjustment. Now that the Fall season is approaching, it will be to the best interests of every retailer if he would arouse himself and put forth his best efforts to make such a show as would compel people to stop and look. He would feel like saying "Thank you for stopping to look in this window." It is with just this purpose in view that AMERICAN ARTISAN AND HARDWARE RECORD has instituted its Window Display Competitions. Another one of the series has just commenced which carries with it $100.00 in cash prizes and is open to all hardware dealers and their salesmen; hence the opportunity to put out the best that is in you and line up the progressive merchants who have taken pride in these artistic displays heretofore.

Remember, you cannot expect to be a success by any haphazard method of showing goods. You must have clean and well lighted windows and exercise care and good judgment in arranging the color scheme or illustrating an idea that will please the eye.

Money breaks into society and society breaks into the ten commandments.

RANDOM NOTES AND SKETCHES.

BY SIDNEY ARNOLD

My good old friend, John P. McCrea of Pittsburgh, was in to see me early this week and I enjoyed a pleasant chat with him and a visit to the beautiful, spacious Municipal Pier at the foot of Grand Avenue, Chicago, which extends out in the lake for more than 3,000 feet. The cool lake breezes were very exhilarating and put us both in fine humor. Mr. McCrea took the opportunity of presenting several of his latest choice bits of philosophy and stories, and the one which delighted me particularly was as follows:

A witness in a railroad case at Forth Worth, asked to tell in his own way how the accident happened, said: "Well, Ole and I was walking down the track, and I heard a whistle, and I got off the track and the train went by and I got back on the track, and I didn't see Ole; but I walked along, and pretty soon I seen Ole's hat, and I walked on and seen one of Ole's legs, and then I seen one of Ole's arms, and then another leg, and then over one side I seen Ole's head, and I says, 'My God! Something muster happen to Ole!'"

* * *

John J. Schneider of the Buffalo Sled Company, whose factory is in a suburb of Buffalo, has done very much to gladden the heart of the young boys in this country in placing his coaster upon the market, so after telling us about some improvements he has made in his coaster, Mr. Schneider said:

Who can tell the working of children's minds, or how, all unwittingly, we may make ourselves appear unjust in our dealings toward them?

This was brought home to Mr. Heewit the other day as he took his young hopeful, aged six, for a constitutional. The youngster was evidently thinking hard, for he was silent—which was unusual.

"Daddy," he said, looking up suddenly, "I think I want to get married!"

"Do you, my son? And whom to, may I ask?" answered the proud parent, looking at him.

"I want to marry granny."

"Do you, indeed? And do you think I would let you marry my mother—eh?"

"Well, why shouldn't I?" retorted the tender logician. "You married mine, didn't you?"

* * *

I wonder how many of our readers have escaped the chain-letter pest. Mighty few, I'm sure, and those few can count themselves as among the "favored"—for if there is one abomination it's the originator of the average chain letter. My good friend, F. E. Muzzy, of Springfield, Massachusetts, is one who has been pestered nigh unto distraction, and his "come-back" is characteristic. He recently wrote: "As we are all imposed upon by chain letters and of late they are coming thick and fast—in fact, in one mail I received two, one the duplicate of the other, and yesterday I received the one noted below, which certainly was interesting and a relief and I beg to quote it: 'An Ancient Prayer'—'Oh, for the love of Mike! Don't bother me with any more chain letters! They bother me, they bother the postoffice. They make us all tired. Please copy this carefully fourteen times, mail it to thirty-nine of your friends, with a request that they each copy it seventy-six times and mail it to one hundred and twenty of their friends, if they have that many. If you do it, in seventy-two years you will meet with some great benefit. If you don't do it inside of ten minutes you will feel a blame sight better. Don't break the chain!'"

* * *

Frank Baldwin of the Baldwin Tool Works, Parkersburg, West Virginia, after listening to the stories of tales out of the mouths of babes, sprung this one:

"Father, gimme a good lickin' and make me cry," was the astonishing request little Jimmy made one day.

"What makes you want such an absurd thing?" inquired father.

"You'll hit me and I'll holler with all my might, and mother will wipe my face with her apron and give me a penny and I'll buy candy," came the logical rejoinder.

* * *

Jeff Corydon of the Germantown Tool Company entertained two of his customers at the theatre the other night and this was one of the tales that was sprung from the stage:

A fish peddler was whipping his slow but patient horse in a residential street the other day, and crying his wares at intervals:

"Fresh mackerel! Fresh mackerel!"

A woman, seeing his acts of cruelty, put her head out of the window, and called to him:

"Have you no mercy?"

"No, mum," he replied; "nathin' but mackerel."

* * *

There are times in the lives of all of us when we feel that we are slipping, that we are not keeping up to the quota which has been laid out for us, either by ourselves or by our employers. Then is when we need a little "sand" and it is for that reason that the following verses which recently appeared in "Claxton's Magazine" appeal more or less to all of us:

Sand.

I observed a locomotive in the railroad yards one day,
It was waiting in the roundhouse, where the locomotives stay;
It was panting for the journey, it was coaled and fully manned,
And it had a box the fireman was filling full of sand.

It appears that locomotives cannot always get a grip
On their slender iron pavement 'cause the wheels are apt to slip
And when they reach the slippery spot, their tactics they command
And to get a grip upon the rail they sprinkle it with sand.

If your track is steep and hilly, and you have a heavy grade,
And if those who've gone before you have the rails quite slippery made;
If you ever reach the summit of the upper tableland,
You'll find you'll have to do it with a liberal use of sand.

If you strike some frigid weather and discover to your cost
That you're liable to slip on a heavy coat of frost,
Then some prompt, decided action will be called into demand;
And you'll slide clear to the bottom if you haven't any sand.

You can get to any station that is on life's schedule seen,
If there's fire beneath the boiler of ambition's strong machine,
And you'll reach the place called Richtown at a rate of speed
If for all the slippery places you've a good supply of sand.
that's grand

UP TO THE MINUTE NEWS SIFTINGS

The Lewisburg Stove Company, Lewisburg, Tennessee, has been acquired by the Lewisburg Foundry Company. Enlargements will be made to increase the capacity about 60 per cent.

The International Castings Company, Rome, Georgia, has been incorporated with a capital of $10,000 to manufacture stoves, ranges, etc. The incorporators are W. A. Smith, E. W. Kreider, and others.

The Mutual Heating and Lighting Company, Toledo, Ohio, has been organized with a capital stock of $50,000, by William J. Biebeeheimer, Marvin M. Koos, W. L. Vail, H. A. Pollax and P. F. Parrott.

MONIE KAUFMAN MARRIES MISS LENA HIRSCH JETTONE.

American Artisan and Hardware Record has just received an announcement of the wedding of Monie Kaufman, traveling salesman for Rathbone, Sard & Company, to Miss Lena Hirsch Jettone, of Joliet, Illinois, which took place Thursday, July 12th, at Joliet. Their many friends will join with us in extending to them heartiest greetings and best wishes for true happiness in their married life.

SOUTHERN STOVE MANUFACTURERS TO HOLD QUARTERLY MEETING AUGUST 27 AND 28.

The Southern Association of Stove Manufacturers will hold their regular quarterly meeting at Signal Mountain Inn, near Chattanooga, Tennessee, on Monday and Tuesday, August 27th and 28th. Signal Mountain Inn is a summer resort, an ideal place for rest and recreation, and all those attending are assured of a very pleasant time.

The meetings of the Association have heretofore been for Southern Manufacturers only, but at the Signal Mountain Inn meeting it is planned to have manufacturers from other parts of the country in attendance, as the mingling of stove men from different territories tends to create a better feeling in the industry and will no doubt prove decidedly beneficial to stove manufacturers affiliated with the different territorial associations. The officers of the Southern Association of Stove Manufacturers are: H. J. Karges, Evansville, Indiana, president; B. E. McCarthy, Nashville, Tennessee, vice-president; and W. H. Cloud, Louisville, Kentucky, Secretary.

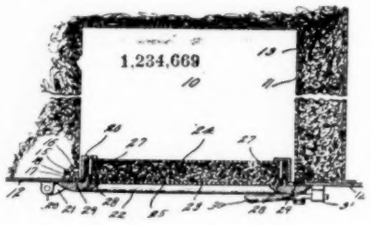
AIR-TIGHT DOUBLE HEATER OF AN ORIGINAL DESIGN.

The Sunshine Air-Tight Double Heater is described as an entirely new production, original in design, and embodying all the good points of the most successful air-tight heaters on the market. An examination of the firepot shows a series of vertical slots or flues, opening inward, and occurring at intervals of four inches around the inside of the pot. These flues are open at the bottom, to prevent the accumulation of ashes, and converge towards the inner surface of the firepot at the top. Their function is to convey air from the ash pit to the entire outer surface of the fuel, thus, it is said, directing combustion toward the center, and forcing the gases from the body of the fuel to the upper surface where they are met and consumed by the currents of heated air entering the fire chamber from the sides. According to the manufacturers, the entire volatile element of the fuel is thus taken advantage of, even the smoke being consumed.

The dome and firepot are connected by a channel joint, sealed with asbestos cement, which is said to be gas tight, unaffected by heat expansion. These two castings, which are subject to the hardest service, are made very heavy to withstand the wear, and have a large heating surface affording great heating power. The Sunshine Air-Tight Double Heater also has other noteworthy features, and circular giving full particulars can be obtained by addressing the Reading Stove Works, Reading, Pennsylvania, or their Chicago Branch at 2901 South La Salle Street.

PATENTS DOOR CONSTRUCTION FOR HEAT INSULATED CHAMBERS.

Jesse Jackson, Kokomo, Indiana, assignor to The Globe Stove and Range Company, Kokomo, Indiana, has procured United States patent rights, under number 1,234,669, for a door construction for heat insulated chambers described in the following:



A heat insulated chamber, comprising a wall having an opening, a frame surrounding said opening, and a door removably projecting into said opening, said door comprising a front member which overlaps the edge of the opening, a rear plate, heat-insulating material between the front members and the rear plate, a clamping member which overlaps upon the rear plate and extends across the edge of the space occupied by said heat insulating material, and a gasket of heat insulating material which is clamped between the front edge of said clamping member and the rear face of said front member and projects between the cooperating portions of said frame around the opening and the overlapping front member of the door.

The new store in a neighborhood certainly has the advantage. If you are a new one don't lose the opportunity to appeal to the curiosity of passersby by having the whole general appearance of your store inviting and attractive.

HOW A RETAIL SALESMAN SELLS A LINE OF RANGES.

Several valuable pointers on range selling are given in the following article appearing in the very attractive and helpful catalog recently issued by the Globe Stove & Range Company, Kokomo, Indiana. In this, a retail salesman describes his method of selling Globe Ranges:

HOW I SELL GLOBE RANGES.

I find out the kind of a range the prospect is looking for, whether large or small, plain or full nickeled. This point ascertained, I seat my customer, if it is a woman, in front of the range that comes closest to her desire.

I always show the Globe electric-welded oven first, because that is the most important thing to a woman. I tell her why it is superior, explaining that electric welding makes it absolutely air tight. At the same time I show and explain the oven bottom; prove to her why this oven will heat quicker, hold heat longer and require less fuel. It is easy to make her see why baking will always come out just right. It simply can't go wrong in this oven, and right here I always paint a little picture of a flaky-crusted juicy cherry pie as baked in this oven.

Then I take my handkerchief and show her how easy it is to keep a Globe range clean—no bolts, no rivets to collect dust and grease. Next the plain silvery nickel and smooth castings—suggest that this will lighten her work.

Then I show the firebox with its ventilated, coal saving construction. At the same time I call her attention to the large flues around the oven and the advantages of this idea. May I say right here that I am not afraid to get my hands black, because I don't want my customer to get the impression that a Globe is a dirty stove. She has to work up to her range in her kitchen—why shouldn't I when I'm showing it?

In my talk I like to tell a lady how proud she will be of her stove; get her to acknowledge it is the best looking range she has ever seen; in short, make her hungry for the stove. I have found that it is easy to create the desire if you follow this line of persuasion. From my experience in stove selling I have found that it is possible to sell more stoves and sell them at a better profit by creating the desire in your customer's mind through the medium of economy—usefulness and pride of ownership. If you have never tried this line of talk on a range prospect, if you have never tried suggestion as a means of creating desire, try it the first chance you get. It's a winner and will make you many a profitable sale.

GEORGE W. GRAVES SUMMERING IN MICHIGAN.

George W. Graves, of the Graves Supply Company, Cincinnati, Ohio, is enjoying a vacation at Otsego Lake, Michigan. In a photograph which he has been thoughtful enough to send AMERICAN ARTISAN AND HARDWARE RECORD, Mr. Graves looks cool and comfortable in his shirt sleeves, and no wonder, for he says, "Been here a month. Fishing good. Eats fine. Weather cool. Company small but select." What more can a man need to make him comfortable?

LAKE TRIPS FOR VACATION TIME.

Schools have closed for the summer, and now the small boy can pursue, without restraint, his quest for pleasure. But it is not he alone who has been eagerly awaiting the summer season, for we grown-ups are also planning on relaxing from our every-day labors.

The summer vacation should also provide a change from the every-day scenes, and already thousands of vacationists have wended their way to the Great Lakes and particularly to Lake Erie, where are to be found the finest and largest steamers plying inland waters.

What is said to be the largest and most magnificent of these steamers, the great ship "Seeandbee," is now running daily between Cleveland and Buffalo, and its immense popularity is attested by the large number of passengers carried.

This trip not only appeals to the vacationist but also to the weary commercial traveler who, by boarding the steamer at Cleveland or Buffalo at 9 p. m., may break the monotony of his all-rail journey, enjoy a refreshing night's sleep and reach his destination at 7:30 the following morning, in plenty of time and with the inclination to start the day's struggles early.

The Cleveland & Buffalo Transit Company of Cleveland, Ohio, operators of the C & B Line, will gladly furnish time tables, folders or any other information desired.

MEN WHO LIVE IN MEMORY.

Every town (and ours is no exception) has two distinct classes of citizens—those who live in the memory of their fellow men, and those who are promptly forgotten.

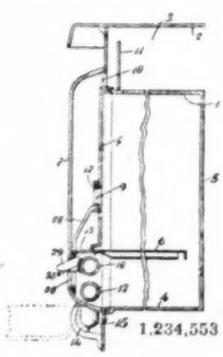
The man who is energetic, persevering, and keeps always in mind the welfare of the community in which he lives, will never need a marble to keep his memory green.

The fellow who kicks and vilifies his own home town will die unmourned and his neighbors will not even think of him long enough to forget him.

Say a good word for your town—and say it again.—Kiowa, Kans., Daily Journal.

PATENTS GAS FURNACE AND STOVE.

Under number 1,234,553, United States patent rights have been granted to William L. Mersfelder, Kennedy Heights, Ohio, for a gas furnace and stove described in the following:



In a gas burning attachment for cooking ovens and the like, having flue space over the top thereof, a gas burner, a false bottom for the oven located above the burner and provided with an opening therefor, a door, a flue chamber in the door, and a passageway from said chamber to the flue space over the oven, a gas pipe for said burner, means for hinging the door over the oven and means for mounting said burner so as to swing with the door, a damper from the flue chamber to the interior of the oven, means for locking the burner to the door, and operative connection between said damper and the locking means.

THE WEEK'S HARDWARE RECORD

Of Interest to Manufacturer, Jobber and Retailer

AMERICAN ARTISAN AND HARDWARE RECORD is the only publication containing western hardware and metal prices corrected weekly. You will find these on pages 42 to 47 inclusive.

Articles of incorporation have been filed in behalf of the Wisconsin Tool & Supply Company, Milwaukee, Wisconsin. The capital stock is $20,000 and the incorporators include E. B. Arnold, John S. Stover and John W. Mapel.

The Annual Congress of Purchasing Agents under the auspices of the National Association of Purchasing Agents will take place at Pittsburgh, October 9th to 11th. The Association is the outgrowth of a movement commenced about five years ago, and its object is to acquire and disseminate information for those engaged in purchasing capacities.

OHIO'S FIRST DRAFTED SOLDIER REPRESENTS THE HARDWARE TRADE.

Harry V. Oberlin, 9716 Lamont Avenue, Cleveland, Ohio, has the honor of being Ohio's first accepted member of our new National Army, and listed in official records as being in "fine physical condition." Mr. Oberlin is employed as a salesman by the W. Bingham Company, hardware jobbers, West 9th Street, Cleveland, Ohio. He is twenty-four years of age and single; was born in Mansfield, Ohio. His serial number was 2787, and he was twenty-seventh in order of call. For his height, 6 feet, 2 inches, the minimum weight is 159 pounds, he could only weigh in at 148 pounds. However, so physically perfect was he that the examining board exercised its prerogative and immediately accepted him, much to the gratification of the candidate.

WOULD CALL A NATION'S BUSINESS CONVENTION.

Zenas W. Carter, Commissioner, Associated Lath Manufacturers of Cleveland, Ohio, suggests "A Nation's Business Convention," as an endorsement of President Wilson's plan for market stabilization to check the growing unrest among manufacturers over price conditions of raw materials. In a signed article in the *New York Times Analist* he says:

"Not only will such a meeting of business men show to President Wilson and the public how truly patriotic our manufacturers are—every one of them—but it will show each manufacturer to his fellow as a disciple of that principle on which American success is founded —'All are equal.'"

Mr. Carter's idea is a thoroughly practical one and should receive the favorable consideration of every manufacturer, as well as the National Chamber of Commerce, whose duty it is to foster any movement for the benefit of the manufacturing and mercantile world at large.

SUPERIOR MANUFACTURING COMPANY BUILDING NEW FACTORY.

The Superior Manufacturing Company, Gloucester, Massachusetts, which recently was incorporated with a capital stock of $60,000, is building a factory and equipping it with all the latest machinery for the manufacture of expansive bits. It is expected that they will be able to make shipments in October.

The company has taken over the Davis Hardware Company and has also purchased the machinery, tools and good will of the R. H. Brown Company. The officers of the Superior Manufacturing Company are: Benjamin A. Smith, president, and Thomas P. Bolger, treasurer and general manager.

SUPPLY AND MACHINERY MANUFACTURERS URGED TO TAKE NOTE OF CHILD-LABOR LAW.

Under date of August 2d, F. D. Mitchell, New York City, secretary-treasurer of the American Supply and Machinery Manufacturers' Association, has sent letters to the members, enclosing a copy of the bill which is popularly termed the Child-Labor Law and calling attention to its provisions. Since the Act will be effective September 1st and holds the dealer as well as the manufacturer responsible for violations of its provisions, the members are advised that before that date they should not only arrange for carrying out this Act in the making of their goods, but should also provide for giving notice to customers that the specific goods purchased by them have been produced in strict conformity with the Law.

The Child-Labor Law provides (1) that no children under 14 years of age shall be employed in any capacity in any part of your works, and (2) that children between 14 and 16 years of age may be so employed under certain specific conditions of hours, provided the child procures, and the employer keeps on file, a Federal Certificate of Age for each child employed. As the provisions of this certificate are very rigid, the supply and machinery manufacturers should procure from the Children's Bureau of the United States Department of Labor at Washington, their pamphlet entitled "Tentative Rules and Regulations for carrying out the Provisions of the Child-Labor Act of September 1, 1917."

In order to anticipate requests for guarantee from customers, the manufacturers are advised to have all invoices bear the following notice: "We, the under-

signed, do hereby guarantee that the goods listed herein were produced or manufactured in accordance with the Federal Child-Labor Act of September 1, 1917."

ORDERING POWDER AS WELL AS SHELLS BY NAME.

It is said to be readily apparent, after a moment's thought, that the powder contained in a shotgun shell which the hardware dealer sells is a factor of prime importance to his customers. This being the case, it would seem to be a matter of good business, when ordering loaded shotgun shells, to specify that they be loaded with a powder of proven worth, one which the dealer can freely recommend, and with which his customers are familiar.

Such a powder, say the manufacturers, is obtained when Infallible or "E. C.," the two Hercules Smokeless Shotgun Powders, are specified. These can be secured in Winchester, Peters, Remington, Selby, U. S. and Western shotgun shells. Dealers who are not acquainted with the advertising service which the manufacturers give to retailers of shells and ammunition are invited to write the Hercules Powder Company, 1 West 10th Street, Wilmington, Delaware.

FIGURING COSTS AND PROFITS.

The following fourteen rules for figuring costs and profits have been recommended by the National Association of Credit Men:

1. Charge interest on the net amount of your total investment at the beginning of your business year, exclusive of real estate.

2. Charge rental on real estate or buildings owned by you and used in your business at a rate equal to that which you would receive if renting or leasing it to others.

3. Charge in addition to what you pay for hired help an amount equal to what your services would be worth to others; also treat in like manner the services of any member of your family employed in the business not on the regular payroll.

4. Charge depreciation on all goods carried over on which you may have to make a less price because of change in style, damage, or any other cause.

5. Charge depreciation on buildings, tools, fixtures, or anything else suffering from age or wear and tear.

6. Charge amounts donated or subscriptions paid.

7. Charge all fixed expenses, such as taxes, insurance, water, light, fuel, etc.

8. Charge all incidental expenses, such as drayage, postage, office supplies, livery or expenses of horses and wagons, telegrams and telephones, advertising, canvassing, etc.

9. Charge losses of every character, including goods stolen or sent out and not charged, allowance made customers, bad debts, etc.

10. Charge collection expenses.

11. Charge any other expense not enumerated above.

12. When you have ascertained what the sum of all the foregoing items amounts to, prove it by your books, and you will have your total expense for the year; divide this figure by the total of your sales, and it will show you the percentage which it has cost you to do business.

13. Take this percentage and deduct it from the price of any article you have sold, then subtract from the remainder what it cost you (invoice price and freight) and the result will show your net profit or loss on the article.

14. Go over the selling prices of the various articles you handle and see where you stand as to profits, then get busy in putting your selling figures on a profitable basis and talk it over with your competitor as well.

The credit men have also prepared a table for figuring net profits which is reproduced herewith with directions for figuring percentage of net profits.

TABLE FOR FIGURING NET PROFITS

If your cost of doing business figured on sales is represented by one of these figures

And you mark your goods at one of these per centages above delivered costs.	%	10%	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%	21%	22%	23%	24%	25%
	25	10	9	8	7	6	5	4	3	2	1	00	1loss	2loss	3loss	4loss	5loss
	33⅓	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	00
	40	18⅛	17⅛	16⅔	15⅛	14⅓	13⅓	12⅓	11⅓	10⅔	9⅛	8⅓	7⅛	6⅔	5⅔	4⅓	3⅓
	50	23⅓	22⅓	21⅓	20⅓	19⅓	18⅓	17⅓	16⅓	15⅓	14⅓	13⅓	12⅓	11⅓	10⅓	9⅓	8⅓
	60	27⅓	26⅓	25⅓	24⅓	23⅓	22⅓	21⅓	20⅓	19⅓	18⅓	17⅓	16⅓	15⅓	14⅓	13⅓	12⅓
	75	32⅓	31⅓	30⅓	29⅓	28⅓	27⅓	26⅓	25⅓	24⅓	23⅓	22⅓	21⅓	20⅓	19⅓	18⅓	17⅓
	100	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25

Your percentage of net profit is represented by the figure at the junction of the two columns.

For example: If cost of doing business is 15 percent of your gross sales and you mark a line at 25 percent above cost, your net profit is 5 percent on sales as shown in the diagram. If your cost of doing business is 18 percent and you mark a line at 60 percent above cost, your net profit is 19½ percent on sales.

CATALOGS WITHOUT PRICE LISTS DRAW COMPLAINT FROM FOREIGN BUYERS.

A. Almeida, clerk at the American Consulate at Pernambuco, Brazil, in a recent commerce report states that inquirers complain against American manufacturers who issue attractive catalogs describing their products but fail to state prices.

In most cases prospective buyers are in a hurry for the goods they wish to order, perhaps through a local agent, and the latter must either risk money on a cable inquiry or wait two or three months for an answer by mail before quoting prices to his customer.

Not long ago a firm in Pernambuco wanted to order a certain kind of machinery and applied to that office for catalogs. There were two catalogs describing just the kind of machinery desired. The machinery shown in one of these appealed to the merchant, but when he saw that there was no statement as to prices, he changed his mind and ordered from the other manufacturer who furnished a price list with his catalog.

Importers and agents in this section generally understand that prices are subject to changes, but they must have an idea of the cost of an article before ordering it, and the distance and insufficiency of transportation facilities work greatly in the interest of American firms who send price lists along with their catalogs.

EXHIBITS IN AMERICAN ARTISAN WINDOW DISPLAY CONTEST

WINDOW DISPLAY OF FLASHLIGHTS FOR "OLD HOME" WEEK.

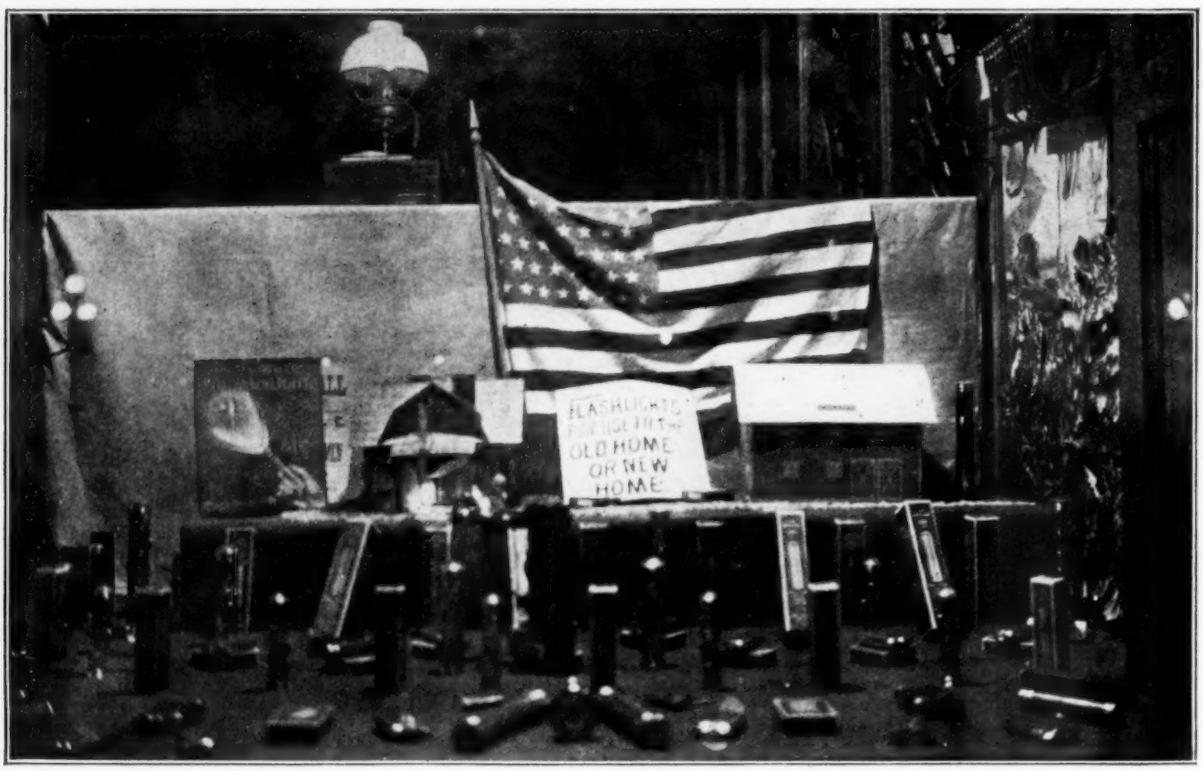
"Old Home" Week gave the idea for the window display of Flashlights shown in the accompanying illustration, which was arranged by G. C. Franklin for L. P. Smith Company, 13 South First street, Fulton, New York, and received Honorable Mention in AMERICAN ARTISAN AND HARDWARE RECORD Window Display Competition.

The window display is described by Mr. Franklin as follows: "On a raised platform in the background was a cardboard house and barn with green 'dust-out' used as grass while chicken grit made the road and sidewalk from the house to the barn. On the walk was a small doll; a doll also stood on the doorsteps to welcome the one coming. Here was a card with the words, 'Welcome home.' Over the porch a small American flag hung and a bicycle lamp was arranged to light the doll in the doorway after darkness had set in.

"On the floor flashlights were arranged to good advantage, each with its price marked. Above was a large flag and in front of the flag a card reading, 'Flashlights for use in the old home or new home.'

"We find our sales on these goods are much better when they are well displayed."

In the last two lines Mr. Franklin has perhaps unwittingly told the why and wherefore of the window display, and its importance in attracting customers. When a retail hardware dealer gets to a point where he appreciates the full significance of this indisputable fact, he is well started on the road to drawing more passers-by, more inquiries, more sales and more profits.



Window Display of Flashlights Awarded Honorable Mention in AMERICAN ARTISAN AND HARDWARE RECORD Window Display Competition. Arranged by G. C. Franklin for the L. P. Smith Company, Fulton, New York.

SALESMEN'S MISTAKES.

A salesman cannot afford to make a mistake. Why? Because a salesman's mistake means a customer's funeral.

When a lawyer makes a mistake it's just what he wanted, because he has a chance to try the case all over again.

When a carpenter makes a mistake, it's just what he expected, because the chances are ten to one he never learned his business.

When an electrician makes a mistake he blames it on "induction," because nobody knows what that is.

When a doctor makes a mistake, he buries it.

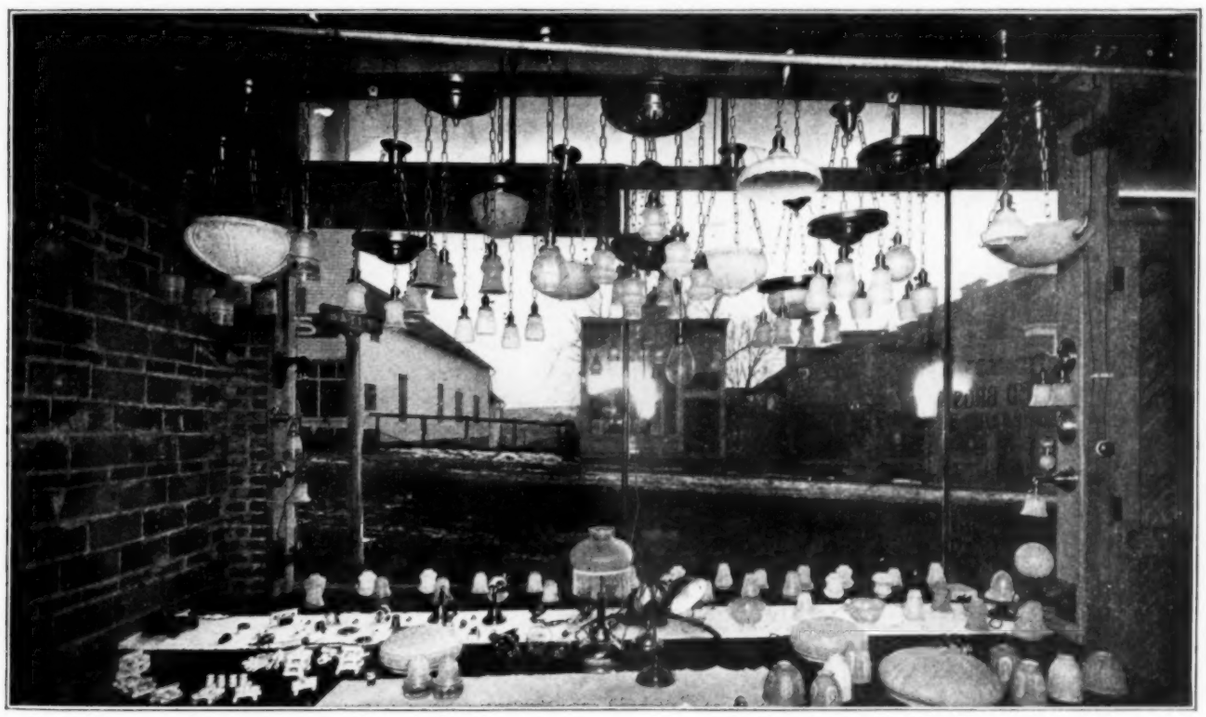
When a judge makes a mistake, it becomes the law of the land.

But a salesman, he is different. He has to be careful. He cannot turn his mistakes into profit or into a profession, as other people do.

UNIQUE DISPLAY OF ELECTRIC LIGHT FIXTURES.

The accompanying illustration shows in detail the unique display of Electric Light Fixtures arranged by Reed Brothers, Casey, Iowa, and which was awarded Honorable Mention in AMERICAN ARTISAN AND HARDWARE RECORD Window Display Competition. This was the first attempt of the firm in this direction and they undoubtedly were amply repaid for the effort by increased sales.

It will be noticed that the photograph was taken from the inside of the store, showing a very odd and unusual background, but the details of the picture are there. The display was so arranged that all fixtures were shown to the best advantage. Black and white were the predominating colors. The brass and dark fittings are on the white, and the white on the black, which was specially noticeable at night. The overhead hanging fixtures are both numerous and elaborate, and much has been made of the multiplicity of smaller ones. We have here an unusual instance of a display without a background in the store, and with its ceiling arrangement of equal importance with the floor display.



Window Display of Electric Light Fixtures Awarded Honorable Mention in AMERICAN ARTISAN AND HARDWARE RECORD Window Display Competition. Arranged by Reed Brothers, Casey, Iowa.

PROSPEROUS TIMES AHEAD.

I judge the conditions that will exist during the present war by the war that took place in this country fifty-five years ago. We have never had such prosperous times for business men in the last fifty years as we had during the four years of the Civil War. And I feel now that it requires no prophet to see that this country is on the eve of prosperity the like of which it has never enjoyed before.—John A. Patterson.

ANOTHER WINDOW DISPLAY COMPETITION ANNOUNCED BY AMERICAN ARTISAN AND HARDWARE RECORD.

We believe it is only necessary for us to make this announcement to create an immediate interest among the hardware dealers and their employes throughout the country. Each succeeding competition in the past has developed increased enthusiasm and we have reason think it will be even more manifest during the contest which is now announced and which will close November 17, 1917. AMERICAN ARTISAN AND HARDWARE RECORD realizes that these contests are an education to all concerned, as well as an incentive to bring out the best that is in them.

Window dressing today is a science as well as an art, which is improved by constant practice and watchfulness so that those who have competed in the past will naturally try to outdo their previous efforts this year, and those who enter for the first time will have had the benefit of the designs that have been published from time to time.

As in previous competitions, cash prizes amounting to $100.00 will be presented by AMERICAN ARTISAN AND HARDWARE RECORD to the winners, and the competition is open to all hardware dealers or their employes, who may enter any number of window displays of any line of merchandise sold in hardware stores, such as general hardware, machinists' supplies, builders' hardware, automobile supplies, gardening tools, sporting goods, electrical supplies, house furnishings, cutlery, tools, stoves and ranges, warm air heaters, sheet metal products and kindred articles.

Window dressing is not a perfunctory duty, incident to every day life in the store; it is an investment which can be made to produce large returns by judicious management. Consequently the more attention

it is given, the better the returns. Whatever appeals to the eye appeals to the pocketbook at the same time, which is the principal thing to be attained. The large variety of goods in a hardware store offers an abundant field for artistic displays of seasonable goods, thus keeping a constant source of attraction. Every dealer should recognize this fact and at once get to work and lay his plans accordingly. It is not alone the prize money which is worth having, but it is the experience that goes with it. Frequent changes enlarge the window trimmer's ideas and bring his ingenuity into play, so that each successive display should be better than the preceding.

Get to work at once and remember the competition closes November 15th.

In the following are given the details of the award of prizes and the conditions of the competitions which must be adhered to. Read these carefully and make up your mind to be one of the first to enter, remembering also that you can enter as many window displays as you desire:

Award of Prizes.

The prizes will be awarded as follows:

First prize, $50 in cash, for the best photograph and description received of window display of hardware or kindred lines.

Second prize, $25 in cash, for the photograph and description second in excellence.

Third prize, $15 in cash, for the photograph and description third in excellence.

Fourth prize, $10 in cash, for the photograph and description fourth in excellence.

Conditions of Competition.

The conditions of the competition are as follows:

The photographs must be accompanied by descriptions of how the window displays were arranged and the materials used. These photographs and descriptions may be sent by mail or express, charges prepaid, and must reach this office not later than November 15, 1917. Address all photographs and descriptions to AMERICAN ARTISAN AND HARDWARE RECORD Window Display Competition, 910 South Michigan Avenue, Chicago, Illinois.

Each photograph and description must be signed by a fictitious name or device and the same name or device must be put upon a sealed envelope containing the real name and address of the contestant. This sealed envelope is to be enclosed with the photograph. Contestants are permitted to enter as many photographs of displays as they please.

A Competition Committee of three will be appointed; one of them will be an expert window dresser and one an experienced hardware man. This Committee will pass upon the merits of all photographs and descriptions received, without knowing the names or addresses of the senders, and will decide the winners of the Competition.

AMERICAN ARTISAN AND HARDWARE RECORD reserves the right to publish all photographs and descriptions submitted.

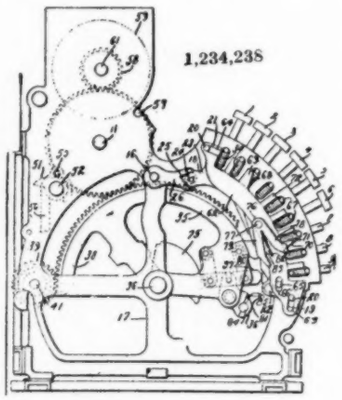
The main reason why it is useless to argue with a drunken man is because he doesn't appreciate your brains any more than you appreciate his breath.—Portland Oregonian.

HARDWARE SECRETARIES TO MEET IN CHICAGO OCTOBER 10 TO 12.

Announcement is made that the Fifth Annual Conference of the National Association of Hardware Secretaries will take place October 10 to 12 at the Hotel LaSalle, Chicago. The program for the meeting is being arranged by H. O. Roberts, who is secretary of the Minnesota Retail Hardware Association and secretary-treasurer of the secretaries' association. J. M. Stone, Sturgis, Kentucky, secretary of the Kentucky Hardware and Implement Dealers' Association, will be the presiding officer at the Conference.

CASH REGISTER PATENTED.

Edward J. Von Pein, Dayton, Ohio, assignor to The National Cash Register Company, Dayton, Ohio, has been granted United States patent rights, under number 1,234,238, for a cash register which is described in the following:



In a machine of the class described, the combination with a plurality of drawers; of means for holding them in closed position in the machine; a series of depressible keys, the operation in a certain order of a plurality of the keys always being necessary for predetermining which drawer shall be opened; and common means for releasing any selected drawer upon operation of the machine.

CLOTHES PINS.

The average man may not have a speaking acquaintance with the clothes pin, but the housewife greets it as an old friend. Clothes pins are cheap, seemingly-insignificant items, yet many factories are making handsome profits in their manufacture. Martinsville, Indiana, has for example, a factory with a capacity of more than 200,000 clothes pins a day.

From each rough log which starts through the mill, hundreds of the shapely little wooden pins familiar to the backyard are obtained. The logs are cut into blocks about sixteen inches long, which a heading saw cuts into boards about five eights of an inch thick. A gang of saws cuts these boards into strips five-eighths of an inch square and each long enough to make four pins. These strips are placed on an automatic trimmer and cut to the required length. They are then conveyed to the automatic lathes.

From the lathes the pins drop to the slotting machines, and from these to the dry-room, where all moisture is removed. Next they go to the polishing cylinders, which are filled about half full of pins, chips and sawdust. The cylinders revolve slowly for four hours, after which the pins drop into chutes to be conveyed to the packing room.

TOOL MAKING

By Sanford S. Vaughan,
President, Vaughan & Bushnell Manufacturing Company, Chicago.

The art of tool making, to use the phrase, is as old as the hills, for our early Bible history tells us of building, the Ark for example, and where building is accomplished, tools are necessary. The early method of tool making, undoubtedly, had copper for its base for we know of the art of hardening copper, now lost, and we also know that the art of steel making was then undiscovered.

Modern practice has taught us how to make steel from iron ore with which our country and other sections of the world are abundantly supplied. In the making of steel, this ore passes through many

Sanford S. Vaughan.

processes and there are different methods of making this ore into steel which forms the base of all good tools today. But as the subject we are treating is tool making, we will pass the subject of steel manufacture as that is extensive and needs a separate treatise. We, therefore, will not treat with how steel is made.

We will, however, treat with what steel is and why steel is used for tools. In the making of steel there are certain elements that produce hardness when heat treated, other elements that produce toughness, others that produce purity, and others that are the enemies of steel. These latter are found in the natural ore, and have to be eliminated so far as possible in the process of steel making, while the former are added during process and the final product is produced of a certain analysis according to the knowledge of the tool maker, as to what his particular tools require and the manner of his shop practice in the making.

You will, therefore, see that the base of all tools is not alike—in fact, should not be—that the steel is the foundation of the building we are to erect thereon and must have the strength, the purity and other requirements according to the building (tools) we are to build. The steel analysis we do not see, like the foundation below ground, but that is the most important, for nothing will endure without that hidden strength, whether it be a building, a human character or a tool.

The principal element which affects the hardness of the steel is carbon. This, then, must be in all steel so that the tool may be hardened harder than when in its natural state. In tool making we have instruments for measuring this hardness. For example the steel, as received from the mills, of proper analysis for tool making will show an instrument hardness of approximately 30. This measuring instrument has a scale similar to a thermometer. Steel has a grain; the weaker the steel the coarser the grain, and the stronger the steel, the finer the grain.

We will now follow the manufacture of three tools, a Hammer, a Cutting Nipper and a Cold Chisel. The Hammer, if it be a Machinists' Hammer when in use, will be used against other metal, possibly with 30 hardness, ofttimes harder. The Nipper will be used on steel to cut wire or nails which have a varying density, and the Cold Chisel likewise. Therefore, in order to get these three tools to overcome their opponents, the tools must have the greater hardness. This then brings us back to the analysis of the steel so that this hardness can be produced, which comes in an operation called "tempering" after the tool is forged and shaped, and will be explained later.

The bar steel upon receipt from the mill is inspected, tested and analyzed. The first operation after cutting to length is "forging," which is accomplished by hammering the bar to shape on dies placed in rapid striking hammers of light design, or on heavy hammers of less speed but equipped with dies that have the impression of the tool cut therein. The object of the heavy hammers is to force the heated steel into these impressions. This is called "drop forging" and this method insures more uniformity in the design of the tool.

We have just stated that dies were used and here call attention to the fact that these dies are of steel and that it requires steel to meet and conquer steel. The dies are of similar analysis with the tool being forged, but the dies are hardened to a hardness of 85 on the instrument before mentioned, while the heated tool is soft and obeys the force of the hammer blow and forms into the impression of its harder kin. Steel is the King of metals for strength and it requires steel to meet steel in the making.

The heat necessary to cause the tool to be forged makes its grain coarser. It therefore at this point is

soft, which it should be. In fact it must be made still softer, so it can be machined, and as this machining is done when the forging is cold, you will see that the tool which does the machining has a more severe task on its hands than the dies which had the tool heated, which softened it. In order to make this forging as soft as possible, it is again heated and compelled to cool slowly which requires a number of hours. This is called "annealing."

In order not to have quick cooling in the annealing process, the natural air must be kept away. This is accomplished by allowing the heating furnace to cool down slowly or by placing the goods in lime or other air-excluding materials. You can see, therefore, that slow cooling softens steel that has a certain analysis, and later you will see that just the reverse or rapid cooling will produce hardness. The forging now softened by annealing is placed in a machine that is equipped with steel cutters that have such an analysis that they can be hardened and again we have steel meeting steel. The harder tool overcomes the softer and mills or drills it with ease.

The next operation is smoothing the parts of the tool which have not been machined. This is accomplished by grinding. The art of grinding is too well known to need explanation. The tools are now ready for that operation which was planned for when the steel was ordered from the steel mill, that of "hardening and tempering," so that these tools can meet and conquer their opponents.

Before the tools are ready to heat for hardening, the essential thing is to know that the steel grain is all alike in size. The subsequent operations of forging at a high heat have made it coarse and uneven. Since a fine grain is desired for strength, this grain must be brought to a fineness before hardening. This operation is called "heat treating" and consists of holding the heat for a certain period at a certain temperature to allow the grain to refine.

The tools are now ready for hardening, which is done by heating to a temperature predetermined according to its analysis. This temperature is approximately 1,500 Fahrenheit, and when the tools are thoroughly heated, those parts of the tool which require hardness are plunged quickly into oil or water. This operation contracts and closes the grain of the steel and where our tool in the bar showed a 30 point hardness it will now show 80 or more points. But as this hardness makes a tool brittle, something must now be done to relieve this brittleness and here comes the operation called "tempering or drawing."

The process of tempering is performed in the following way: A low heat is again applied, this time from 450 to 550 degrees, according to the work the tool has to do. If it is a tool for cutting wood, it is made softer than the tool to cut steel. This last heat application draws the instrument measure down to 70 or 75 points and at this hardness the three tools mentioned will stand to work and conquer their steel opponents having a lower hardness.

The appearance of the tool is dealt with in the next operation. It is polished in accord with the desire of the tradesman as a selling proposition, for appearance has much to do with instilling confidence of the buyer in the quality of the tool. It is unfortunate, however, that the finish is too often given the greater consideration. A good mechanic would rather buy quality than finish and if tool making practice would revert to the simple finishes and the money spent on finishes put into quality, while this quality would be unseen, it would be value received, where under modern practice the value is often not received.

Thus, while the manufacturer, jobber or dealer may never hear of the poor service, they will hear of the good service in the way of an increased and assured business. I, therefore, desire to convey the idea that the foundation unseen is the important factor of our building.

ADVERTISING DECREASES COST TO PUBLIC.

The rising cost of living is the universal hardship. So great and so many have these rises been that few people realize that there are exceptions to the rule. The fact is there have been numerous exceptions, and all belong to the same class—that of nationally advertised goods.

The agitation over the high cost of living has led to investigations which have brought out facts hitherto unknown to the public. The most important work in this line is done by the Association of National Advertisers. Mr. Sullivan, the Secretary-Treasurer, has given out some vital facts concerning the relation of advertising to selling cost.

"The old idea," said Mr. Sullivan, "that the cost of advertising raises prices dies hard. The business man knows better. But evidence is better than argument, facts are better than theories, and we have been at great pains to collect the facts. We have obtained data from our members which prove that advertising reduces selling costs and thus tends to reduce the selling price of advertised goods. Let me quote a few examples:

"The makers of a famous photographic camera, when they began advertising, twenty-eight years ago, made one camera which took a 2½-inch picture and sold at $25.00. Today they make a far better camera which sells for $10.00.

"A prominent hat manufacturer has, by means of advertising, reduced his selling cost 7 cents per hat. Result, the buyer gets a hat of better quality at no increase in price.

"When the manufacturer of a famous breakfast food specialty began advertising, his goods sold at 15 cents a package. Today the package is 50 per cent larger and the price is 10 cents. Advertising did it. And so on through a long list. In every case the manufacturer has been able either to lower the price or improve the quality at no increase in price."

The future of the retailer in the smaller town lies to no small degree in his realization of the analogy which exists between the history of agriculture and that of merchandising and in the manner in which he applies to his particular field of operations the same general practices and policies which have proven so remunerative for his customer, the American farmer.

PRICE STABILITY PROTECTS THE PUBLIC

By Honorable Dan V. Stephens of Nebraska.

The fact that the government today is before Congress asking authority to fix a basic price to the producer on food products is proof of the correctness of the theory that has heretofore been advanced by that class of business men who have contended that legislation should be immediately enacted empowering the producer to fix a uniform price upon the resale of his product to the consumer. They have sought legislation from Congress that would enable the producer to bridge the passage across the field of distribution to the consumer by fixing the profits that are to be made by the wholesaler and the retailer upon his products and the final price at which his product is to be sold to the consumer. By this method the price cutter and speculator are both completely eliminated, and the cost of their operations is saved to the producer and the consumer.

Such is the gist of the speech which Honorable Dan V. Stephens of Nebraska made recently in the House of Representatives on the Stephens Bill, a bill which he has introduced in Congress to prevent dishonest advertising and false pretenses in merchandising. We quote the following excerpts from his address:

PRICE STABILITY PROTECTS THE PUBLIC.

Mr. Speaker, we have already passed a bill empowering the Department of Agricuture to make a food survey of the country and to stimulate production. This bill, when enacted into law, will enable us to make a complete survey of the food situation in the United States. This, in my judgment, is essential in order that the people may know exactly what food supplies we have. Knowledge of the facts will afford us great protection against food panics. This legislation therefore, coupled with a perfected system of transportation, will place us in a fair way to secure a proper adjustment of prices between producer and consumer. But this will not cover all of our difficulties. There is still a great deal to be done before the business of distribution is reduced to a proper and economical basis. The different factors involved in distribution are all kinds of transportation facilities, all wholesalers, retailers, grain exchanges, and so forth. Through all these numerous channels the products of the farm and factory must pass to the consumer.

The question, then, is how can the slack be taken out of these numerous instruments of distribution so that the price of the products of the farm and shop will not be enhanced to unbearable levels when the product reaches the consumer? In time of peace the waste in this field is not so noticeable, and the producer and consumer do not complain so much of the conditions under which they are working, though the waste is proportionately as great as it is in time of war.

The Middleman.

The trouble seems to be inherent to the nature of the work of distribution. The legitimate distributors consist of the wholesaler and the retailer. In addition to these, of course, there are many other factors entering into the distribution of foodstuffs, such as grain exchanges, commission merchants, and boards of trade. There is a constant spread in this field with opportunities for adding cost to distribution that seem to increase as society becomes more complex. In early times merchandizing did not exist. The producer passed his product direct to the consumer, but now that method is impossible. The complex nature of production and distribution requires highly specialized talent. The skill required to produce is not adapted to distribution. The skill of the tradesman is not the sort required in production. So, as a result, the producer hands over his product to the salesman, the distributor. In fact, the distributor buys the product direct from the producer, so that there is a distinct separation between the producer and the consumer, due to the fact that the title in the product of the shop and factory passes to the distributor, and the distributor then is left free to do with it as he pleases.

This enables him, if opportunity affords, to monopolize the distribution of any product. Take, for example, the great grain companies of the country. There are not very many of them, and as a rule, two or three of these companies will have an elevator in each town in the grain district. These great corporations buy all the grain. There is no one else to buy it; there is no one else who owns elevators where it can be stored, therefore the very nature of the conditions that exist and the capital required make the handling of grain in effect a limited monopoly. There can only be a few companies in the business at most, and they invariably pay the same price for grain. In the main it results in natural monopoly. The point I am about to make, however, is this: That whenever the title to the product of the farm and shop passes completely to the distributor there is a splendid opportunity for the manipulation of the market in one form or another.

The American people have always believed in competition—generally speaking—regardless of the fact that ruthless competition leads straight as a line to monopoly. This is true because sooner or later the inefficient and less competent are gradually driven out of the field, and some great dominating combination will control the market and the price. Many business men have recognized the danger of this policy and have been preaching for several years past that there should be some sort of sensible regulation of competition in order that there might be a survival of legitimate concerns engaged in distribution, so that competition in a legitimate degree could be maintained.

Producer Vitally Concerned in Distribution.

For example, the producer is vitally concerned in the distribution of his product. If his product is manipulated by the distributor in such a manner as to either enhance or depress the price above or below a reasonable figure, the producer is injured thereby. If the distributor secures control of his product and raises the price beyond a reasonable figure, he thereby decreases consumption, and as consumption falls off, the producer of the product is proportionately injured, behis interests lie in an increased production.

On the other hand, if the distributor is able to control the product and has designs upon a competitor whom he wishes to destroy and reduces the price of the product below a reasonable figure at which it can be profitably sold, the producer again is greatly injured by making production impossible.

If either of these conditions prevailed for any length of time the producer would be utterly destroyed. He is therefore vitally interested in the distribution of his product. He in fact ought to be able to control its distribution as a matter of self-preservation. He then would not only be able to protect himself from ruin, but he would be able to protect the consumer from extortionate prices, which are as injurious to the producer as to the consumer.

In 1911 the courts held that the producer could not contract with the wholesaler and retailer to sell his product at an agreed price. The result of that decision has been to create a chaotic condition in the market. The producer finds himself as a result of it unable to in any manner protect either himself or the consumer from unfair methods of distribution. Not only are the consumer and the producer disturbed and injured by this condition, but legitimate distributors—the wholesaler and the retailer—are also greatly injured as a result of it, because the legitimate distributor is better off with a stable condition of profits and with a steady market for the products that he handles than he is in an uncertain market, where he never knows what either the price or the consumption is going to be. The producer under these conditions is left to the mercy of every price cutter whose aim is to drive out competition in the field of distribution so that he can become a price booster instead of a price cutter, and to the mercy of every speculator who has no interest whatever in either the producer or the consumer, with the appalling result as shown in the field of distribution today. A state of anarchy is the only term which fittingly describes it. It is a disorganized mass of struggling men engaged in the fiercest and most destructive competition, which results in monopoly on the one hand and ruin on the other.

Conclusions from Experience of European Countries.

Dr. Taylor, of the University of Pennsylvania, who spent some time in Germany last year studying the food situation, stated before a senate committee that it was useless to attack the distributors of food first in an endeavor to eradicate the speculator and reduce prices to the consumer. He contended that the power and skill of the distributors, no matter what restraint is put upon them, will enable them to push down on

the producer on the one hand and up on the consumer on the other, thus reducing both the amount of production and consumption by reducing prices below the profit point to the producer and beyond the pocketbook of the consumer. Dr. Taylor merely relates the experience of Germany and his conclusions drawn from the facts. The actual practice in food regulation by these countries at war proves exactly the contention that reputable distributors have made for years. They have insisted that an unregulated field of distribution, rife with ruthless competition, could result in only one thing—increased cost—and the cost had to be borne by either the producer or consumer or both in the long run. There is fierce competition in both the field of production and distribution, but the cost of the plant and the technical skill required to produce are both deterrents in production. But in the field of distribution even a truck driver becomes a small distributor. A farmer moves to town and starts a small grocery store, and amateurs of every kind branch out into some business of distribution in a field already completely occupied by experienced men who are giving adequte service at a nominal cost. The result that follows is to increase competition, because the distributors in the field have the advantage of established trade, and the newcomers feel that the only way in which they can get started is to cut prices and reduce margins of profit. As margins are reduced to the distributors, and the consumers apparently profit by it, a struggle begins at once by the distributors to buy their supplies cheaper from the producer.

Every device known to the trade is exercised to beat down the cost of production so that the margin which ruthless competition in the field of distribution had reduced could again be expanded to a living margin. Great distributors, like some of our great department stores and catalogue houses, go about the country among the hungry producers, who are struggling to meet pay rolls, and offer them enormous orders at cutthroat prices, with great success to themselves and ruin to the producer. A producer who needs orders will fall for a bait like that, with the result that the producer is gradually beaten down to the danger line by the distributor. This sort of pressure is constantly going on in the field of distribution, encroaching both on the producer and the consumer, constantly increasing the cost of distribution, as exampled by the fact that 65 cents out of every dollar paid for farm products go to the distributors.

The field of distribution is occupied not only by the reliable and dependable distributors, consisting of wholesalers and retailers, but also by a large number of speculating buccaneers, together with the ignorant interlopers into the retail field, who fancy they see great profits in this sort of business and who live for a brief day as price cutters. These two classes of price cutters and price boosters do more to injure the producer and consumer than all others combined. They gradually destroy legitimate margins of profits, which the distributor must make to stay in the business. The consumer generally makes no complaint against the price cutter, because he profits temporarily by buying his supplies at a lower rate. But gradually production falls off as producers fail and disappear, and a shortage of supplies finally manifests itself. When the shortage occurs, the pinch of high prices invariably follows, and then the consumer complains loudly and bitterly. This is especially apparent at the present moment.

Price Maintenance Desirable.

This condition could be greatly improved if the producers were allowed to control their own distribution through the present established wholesale and retail channels. A basic price should be fixed, and there is only one factor upon which a basic price can be made, and that is the cost of the product. There is only one person therefore who can fix a basic price, and that person is the producer himself. But the courts have held that he can not enter into a contract with a wholesaler and a retailer fixing the price at which his product is to be sold to the consumer, as it is contended that such a contract would be contrary to the Sherman anti-trust law. The correctness of this line of argument has been questioned by a great majority of the business men who are vitally interested in having open and free competition in the field of distribution. They have felt that in order that there might be some stability to prices that the producer must control his own product and say at what price it is to be sold to the consumer. By this method wasteful and extravagant methods of distribution can be eliminated.

The fact that the government today is before Congress asking authority to fix a basic price to the producer on food products is proof of the correctness of the theory that has heretofore been advanced by that class of business men who have contended that legislation should be immediately enacted empowering the producer to fix a uniform price upon the resale of his product to the consumer. They have sought legislation from Congress that would enable the producer to bridge the passage across the field of distribution to the consumer by fixing the profits that are to be made by the wholesaler and the retailer upon his products and the final price at which his product is to be sold to the consumer. By this method the price cutter and speculator are both completely eliminated, and the cost of their operations is saved to the producer and the consumer.

The court decision making such a contract illegal, above referred to, was an invitation to the buccaneer speculator and price cutter in the field of distribution to jump onto the producer and ruin his product by unfair competition and dishonest methods of merchandising. The producer would no longer protect the consumer of his product from either the speculator or the price cutter. If his product was the subject of speculation and high prices, consumption immediately fell off and the producer was injured by the loss of trade and the consumer was injured by being compelled to go without his product. The power in the distributor to run down the price to the consumer is also the power to raise it to the consumer. If the consumer could fix the price, he would not only ruin the distributor but the producer as well, and therefore he would ruin himself. It is quite apparent that the man who produces an article has an inherent right to price it. If no one wants it at his price, it is his misfortune; but he alone knows what it has cost him to produce it, and he alone knows how much profit he must take in order to continue producing it. The court, of course, admits that, but the court says he can not enter into a system of contract with his distributors fixing the price at which it shall be passed on to the consumer, because that would be against public policy and in restraint of trade. It is a strange conclusion to draw from the state of facts, because every producer is in the fiercest competition with other producers of like articles, each bidding for the consumer's favor in price, in quality, and in quantity. There can be no restraint of trade in such a practice, because competition is in no way interfered with.

The Stephens Bill.

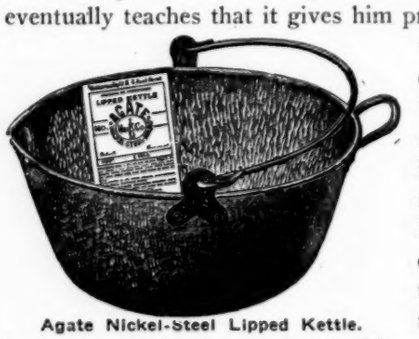
As a result of this court decision a demand for remedial legislation has grown up among both distributors and producers asking that a law be passed legalizing a contract by a producer for the resale of his product through the wholesaler and retailer to the consumer at a price to be agreed upon. To that end a bill commonly known as the "price-maintenance bill," or "A bill to prevent dishonest advertising and false pretenses in merchandising"—Stephens bill—has been before the Interstate Commerce Committee of the house for several years, and extensive hearings have been held upon the same. If this bill should become a law, it will aid very materially in protecting the honest merchant from the price cutter and speculator, who are both interlopers into the field of distribution, and thereby protect the producer from the encroachments of the field of distribution, and thereby increase production and gradually lower costs and prices.

Benefits Everyone Concerned.

The great advantage to the consumer in an arrangement like this lies in the fact that he has a steady market in which to buy his products as well as in which to sell. He pays a price for his supplies that allows an honest profit to the distributor, the wholesaler, and the retailer, and an honest competitive profit to the producer. These profits will be regulated by the power of the producer to guide his product across the turbulent field of distribution at a certain price. If he fails to maintain it, the price cutter—broadly speaking—will ruin the producer and the speculator will ruin the consumer; and they usually ruin each other in the end, only to be replaced by a new breed of price cutters and speculators as fast as their places are vacated.

NICKEL-STEEL WARE APPRECIATED BY HOUSEWIVES.

The experience of every retail hardware dealer eventually teaches that it gives him prestige to handle the best grades of merchandise. This prestige is reflected in the increased demand for quality articles and consequently in the greater business that he enjoys through having built up this reputation. One of the high-grade lines that conduce towards this end is said to be found in the Agate Nickel-Steel Ware, one of which is illustrated herewith. The chief merit of this ware, according to the manufacturers, is the fact that the enamel is so hard that its fusing point is not attained until the nickel steel base is about ready



Agate Nickel-Steel Lipped Kettle.

to melt, thus combining with the pure, vitreous composition and forming a clinch or union of exceptional durability. This hard coating is double and is said to present a smooth, highly-polished and beautifully mottled gray surface, very handsome in appearance and as easily cleaned as china. Through such features, it is claimed, Agate Nickel-Steel Ware is enabled to give complete satisfaction to every customer so that she will buy them again when in need of cooking utensils. Dealers can obtain catalogs and price list from the Lalance and Grosjean Manufacturing Company, 1900 South Clark Street, Chicago.

THRIFT MEANS PERSONAL EFFICIENCY.

If President Wilson wanted to impress upon the people of the United States the importance of one virtue that would mean most to them and to the nation, he might accomplish his purpose with the two words, "Be Thrifty"!

Thrift isn't simply a matter of saving money. "Thrift means personal efficiency," says S. W. Straus, president of the American Society for Thrift. "It means plans, it means self-control, it means foresight, it means prudence, it means sane and legitimate self-confidence, it means all that makes for character."

Years ago Abraham Lincoln said, "Teach economy. That is one of the first and highest virtues—it begins with saving money."

"The man who cannot save, cannot succeed," said the late James J. Hill, the greatest railroad builder the world ever saw.

After all, thrift is not much more than making the fullest and best use of your ability, your time and your money. This sounds simple enough, yet, it is a fact that it is so seldom done by Americans that in this country of matchless opportunities, two-thirds of the people who die do not leave anything but debts!

We are the most thriftless nation on earth. Up to this time our lack in this regard has not held us back so much, because of the unparalleled natural resources at our command. But these resources already have begun to dwindle. Already we are feeling the pinch of prices twice as high as they were a few years ago. Everywhere people are beginning to wake up to the need for using what we hitherto have neglected, and saving to use, not hoarding to have.

OPPORTUNITIES FOR FOREIGN TRADE PRESENTED BY BUREAU OF FOREIGN AND DOMESTIC COMMERCE.

The Bureau of Foreign and Domestic Commerce through its Special Agents, Consular Officers and Commercial Attachés is receiving information of opportunities to sell hardware and kindred lines in several foreign countries. Names and locations will be supplied on request to the Bureau in Washington or its District Offices. Such requests should be made on separate sheets for each opportunity, stating the number as given herewith:

24978.—A firm of commission merchants in India wishes to purchose or to secure an agency on a commission basis, for hardware, household utensils, cutlery, etc. Payment, 60 days, usually, or by cash against documents at destination. Reference.

24892.—A firm in Italy desires to purchase kitchen utensils, especially novelties, and labor-saving devices. Catalogues and price lists are requested. Terms cash, payable 30 days from arrival of goods. Correspondence may be in English. References.

25002.—A firm in Italy desires to purchase with a view to receiving an agency later for some articles. It now wishes electric heating and cooking stoves and heating apparatus, and electrical specialties; iron and cast-iron stoves and ranges; oil-burning heating and cooking stoves; fireless cookers; etc. Quotations should be f. o. b. New York. Terms: Opening a credit at local bank when giving order, available against documents. Correspondence should be in French or Italian. References.

25016.—A merchant in Italy desires to purchase a good quality of pocket knives, razors, scissors, shears, etc. Cash will be paid. Correspondence may be in French or Italian.

25021.—An agency is desired by a man in France for machinery, tools, etc. Correspondence should be in French.

25046.—An agency is desired by a man in France for hardware, small tools, etc. Correspondence should be in French. References.

COMING CONVENTIONS.

Tennessee Retail Hardware Association Convention, Chattanooga, August 7, 8, 9, 1917. Walter Harlan, Secretary, 44 Boulevard Circle, Atlanta, Georgia.

Southern Association of Stove Manufacturers, Signal Mountain Inn, near Chattanooga, Tennessee, August 27, 28. W. H. Cloud, Louisville, Kentucky, Secretary.

Oklahoma Retail Hardware Association, McAlester, September 5, 6, 1917. W. B. Porch, Secretary, Oklahoma City.

National Association of Automobile Accessory Jobbers, French Lick Springs, Indiana, September 10, 11, 12, 13, 14, 1917. William M. Webster, Commissioner, Chicago.

American Washing Machine Manufacturers' Association, September 12 and 13, at Hotel Sherman, Chicago. Raymond Marsh, Otis Building, Chicago, Secretary.

Kentucky Hardware and Implement Dealers' Association, Louisville, Kentucky, November 13, 14, 15, 16, 1917. J. M. Stone, Secretary, Sturgis.

Ohio Hardware Association, Columbus, February 19, 20, 21, 22, 23, 1918. James B. Carson, Secretary, Dayton.

RETAIL HARDWARE DOINGS.

Arkansas.

The Strong Hardware and Furniture Company, Strong, has been incorporated with a capital stock of $20,000, by J. S. Dykes, W. L. Etheridge, P. M. Atkins and R. F. Harrison.

Iowa.

Joseph Hoeven, Sioux Center, has purchased a hardware business.

Minnesota.

P. W. Barthel has purchased the stock of the Hull Hardware Company at Dassel.

Montana.

The Stith Hardware Company, Terry, have moved into their new building.

Nebraska.

Anton Plouzek has sold his hardware business at Crete to E. Jalenck.

G. F. Hughes and Company, Dakota City, have taken over the lumber and hardware business of Fred Lynch.

M. Hurst has purchased the hardware store of Kern and Hahn at Stanton.

J. C. Thomas has bought the Ulysses Hardware Company's stock at Ulysses.

W. J. Wilson has sold his hardware store at Gothenburg to P. C. Schroeder and Son.

North Dakota.

Sommerness Brothers and Olson, Kenmare, have dissolved partnership, Oscar C. Olson continuing the business.

South Dakota.

George Calta has bought the Holmquist hardware store at Geddes.

Texas.

The Holgate-Enderson Hardware Company, Brownfield, has been incorporated with a capital stock of $10,000, by R. H. Holgate, S. H. Holgate, A. W. Enderson and C. C. Handley.

The Garza Hardware Company, Eagle Pass, has been incorporated with a capital stock of $10,000 by Jose Angel Garza, Ricardo Garza and Jose Angel Garza, Jr.

Washington.

The Davis Hardware Company, Mount Vernon, has been incorporated with a capital stock of $16,000, by Maggie R. Davis, Edmund Davis, Winnifred Davis and Russell Davis.

Wisconsin.

The Burnham-Benson Hardware Company, Eau Claire, has been succeeded by the Schroeder-Nielsen Hardware Company, which was just incorporated with a capital stock of $25,000, by George W. Schroeder, Andrew J. Nielsen and R. P. Wilcox.

ADVERTISING CRITICISM AND COMMENT

Helpful Hints for the Advertisement Writer

ADVERTISE ALL THE TIME.

The fundamentals of modern merchandising are perhaps summed up in no more accurate way than in the assertion that when business is good, advertising is an opportunity, whereas when business is dull, advertising is a necessity. That advertising is a cogent force in retailing at present is coming to be more and more understood by every alert merchant. The result is that newspapers are finding it increasingly easier to interest their local business men in printed salesmanship. The gospel is spreading. More thought is being given to good and bad copy. Retailers are studying the advertisements of city department stores, mail order houses, and other like merchandising concerns with the thought of improving the quality of the copy which they use.

* * *

It has been said that the average person spends about eight minutes going through a newspaper. Eight minutes doesn't mean that he has much time to read all the advertisements, but it does mean that some of them will more than likely be overlooked. Some of the ads may not be seen at all. Hence one of the first attributes of an effective advertisement is that it should stand out, it should contrast with others on the page. If others use light type, use bold face type; if others use a delicate border, use a prominent one.

This rule of contrast is splendidly exemplified in the advertisement shown herewith, which the La Grange Hardware Company placed in one of the papers of that western suburb of Chicago. The idea is so novel and so different that it may easily be seen how the ad was one of the most attractive in the newspaper. It is a radical departure from the ordinary style and the plate stood out in sharp contrast to the remainder of the page. The idea of screen time is very well emphasized by the cut.

* * *

Three columns of specific examples in the newspaper advertisement of the Pacific Hardware Company, Everett, Washington, which is shown herewith, indicate plainly that they mean "Business." Many times a sale is announced and the readers are left to imagine the great values offered or the splendid opportunities for effecting a material saving in their purchases. In this instance the advertisers believe that the quotation of definite values exerts more attractive power and we are inclined to agree wholeheartedly with them. Few things attract so much as price quotations, and, generally speaking, they should not be omitted, especially in a sale, where the question of price is of utmost importance. The street address of the store should also be included, because, no matter how well known a store is, there are always people who are not familiar with its location.

Pacific Hardware Co.

Big Unloading Sale

Now On

—Bargains for everybody. We can save you money. Our store is full of things you need; too full for our comfort. Our stock in many lines is away too big. So we have made sharp price reductions on all lines—so notably that the goods will move out in a hurry. A few examples listed below will show you what we mean.

ROLLER SKATES —Ball-bearing, adjustable Skates. Regular $2.50. Special $1.98

ELECTRIC IRONS —Guaranteed for 10 years. Regular $3.50. Special $2.98

EXTRA SPECIAL —Wire Cloth Remnants for your screen doors and windows. Some of these remnants are worth as much as 25c; they will all go on sale tomorrow for, each 5c

WIZARD MOP SPECIAL —Full size Triangle Mop with handle. Regular 75c. Special 49c

CLOTHES PINS —Per Dozen. Ten dozen limit 1c

ALUMINUM WASH BOARD SPECIAL —Regular 40c. Special 24c

IDEAL FRUIT JARS —One-quart size. While they last will sell for, dozen 69c

EXTRA SPECIAL —50-ft. Cotton Covered Garden Hose, coupled complete. Regular $6. Special $3.98

SHOVEL SPECIAL —This is a long handle, round point shovel. Regular $1.50. Special 98c

REFRIGERATORS —Big stock of Refrigerators, all on sale. Here is an example. Regular $27. Special at $19.49

PAINTS —Best Mixed Paints in both house and floor paint. Regular $3.00 per gallon. Special $1.98

This Big Unloading Sale Will Be on for 9 Days More

TENNIS SHOES —All sizes. Regular $1.50. Special at $1.19

GRASS SHEARS —Guaranteed quality. Regular $1.25. Special 89c

FLASHLIGHT SPECIAL —$1.25 Flashlight, complete with battery, for 69c

TIRE TAPE EXTRA —25c Rolls of Tape selling for, each 13c

LAWN MOWERS —16-inch Ball Bearing. Regular $7.95. Special $4.98

ALUMINUM TEA KETTLE —Guaranteed pure metal. Regular $3.50. Special $2.19

GLASS TUMBLERS —Clear Glass, straight sides. Regular $1.00 dozen. Special, doz. 59c

ENAMEL DISH PANS —14-quart size. Regular price 60c. Special 29c

CROQUET SETS ON SALE —$2.50 Set to sell for $1.89

WINDOW SCREENS —at— SPECIAL PRICES —Every screen in selling at a special price. Our stock is complete.

$11.00 ALUMINUM SET FREE —A ten-piece set of aluminum ware will be given away with every Lang Range sold during this sale.

Pacific Hardware Co.

Everett, Washington

HEATING AND VENTILATING

DETERMINING AND APPLYING OVERHEAD IN WARM AIR HEATING BUSINESS.

There appeared on page 30 of the July 28th issue of AMERICAN ARTISAN AND HARDWARE RECORD a letter signed "Heating Contractors," seeking to learn the best method of determining and applying the overhead expense in the warm air heating business. They asked such questions as, "How is percentage of overhead determined?" "Where is it applied?" and "Is it carried entirely on the labor item or is it spread over the entire estimated cost of the work?"

Many prominent men in the warm air heating trade have already recognized the great importance of this question, and several replies have already been received, two of which are published herewith. The first is from George Harms of F. Meyer & Brother, Peoria, Illinois, who is widely known as an authority on matters affecting the warm air heating and sheet metal trade and holds the position of president of the National Association of Sheet Metal Contractors. Mr. Harms' letter is as follows:

To AMERICAN ARTISAN AND HARDWARE RECORD:

The question of "Overhead Expense" is a very pertinent one, and if every sheet metal contractor, whether engaged in the warm air heating business or not, would give more thought towards the expense of doing business, there would be less liability of bankruptcy, and much more prosperity.

I believe that it is not so much a matter of importance how the overhead expense is applied—the main question at issue is that it *is applied*, and a hard and fast rule pertaining to this would not apply to every shop.

During the many years past, prices of materials were practically the same, and the overhead expense could be determined on the amount of business transacted, but since prices of this class of materials have been advancing almost daily, it becomes a very difficult matter to determine the expense on the material. If this was taken on a percentage basis it would be necessary to reduce this amount as the material advanced. For this reason I believe it best to place the overhead on the productive labor.

It would be impossible for anyone to state what the amount of this expense may be, except for his own business, and it can only be determined by having an accurate record of what has been done before.

From my observation the overhead expense on productive labor has never been less than 50 per cent and frequently runs over 100 per cent.

If "Heating Contractors" have no record of their expense so as to determine same from past experiences, I would recommend not less than 50 per cent. After watching this carefully, a more exact amount may easily be determined.

I again wish to impress upon "Heating Contractors" that the main thing is to figure overhead expense—when and how to apply it is a secondary consideration.

F. MEYER & BROTHER COMPANY,
Per GEORGE HARMS.

Peoria, Illinois, August 1, 1917.

The second reply is from George A. Van Landegend of Holland, Michigan, who is also well known in the sheet metal trade. He writes as follows:

To AMERICAN ARTISAN AND HARDWARE RECORD:

Although I am in the general sheet metal contracting business and hardly in a position to give the desired information as applied to heating, still, "the truth is the truth," and I can present the following suggestions which are applicable.

To determine the overhead, find the sum of all items through the year which constitute the expense of doing business, commonly called the overhead expense. The following items will appear, with possibly others: Rent, light, heat, telephone, postage, stationery, insurance, all salaries, interest, discount, licenses, association dues, outgoing cartage, bad accounts, taxes, water, automobile upkeep, etc. Freight and incoming cartage are added to the cost of the goods. I do not include interest on the investment, as I hold investment for chance of profit, and should not exact interest also.

An average found from the results of a number of years' business would be a closer approximation of overhead cost and nearer correct than that found from one year's business.

Overhead expense should be applied in every case, and in the manner best suited for the line of business in question. Where selling labor as well as material, it should be apportioned properly on each. On labor it should be determined by a flat rate of a certain amount per hour of labor, regardless of the cost of same, or by percentage of overhead if labor is estimated in price of labor. I should say about 100 per cent on labor is about correct.

I would also place a certain amount of the overhead expense on material, as some material is sold without labor attached, and such material should carry its part of the overhead. I would discriminate in the amount of overhead placed upon material differing in quality and price, as the overhead cost of doing work with high-priced material will not double or treble because of the material used.

A record of manufacturing and installation costs should be kept, so that as time goes on labor estimating will be less an estimate and more a known cost, as is materials. Knowing these items and overhead, the profit is a known quantity also.

GEORGE A. VAN LANDEGEND.

Holland, Michigan, August 1, 1917.

The views of others will be presented in subsequent issues, and meanwhile all those engaged in the warm air heating business are invited to give their ideas on the matter of determining and applying overhead expense.

SIDNEY E. SLATER RECOVERING AFTER SERIOUS ILLNESS.

The many friends of Sidney E. Slater, who so ably represents the Thatcher Furnace Company, New York City, and who have missed his regular visits for some time past, will be pained to hear that he has been seriously ill in the Henrotin Hospital, Chicago, and on July 21st suffered the amputation of one of his legs. We are pleased to note, however, that he is on the way to recovery and may soon be able to return home.

BEST OF ALL ASSETS.

"God Almighty hates a quitter!" said the Honorable Samuel Fessenden of Connecticut. The nation roared applause from the Atlantic to the Pacific and from the lakes to the gulf for the virile vigor of this rough expression of manhood. The sentiment is one of perennial value.

But what makes the man who does not know when he is defeated and fights to the finish, be the finish his or his opponents? Is it not character; and is not character at bottom only the moral equivalent of stalwart backbone?

The quitter fails and falls because he lacks the force of character, the strength of will, which sees possibilities beyond capacities and regards obstacles as opportunities, discouragement as incentives. The fight which is worth attempting at all is the fight which deserves to be fought thru. "It's dogged as does it," as when Hoenan said to Sayers, "Now, Tummy lad, 'tis thou or I!" and won the last round and the match.

There was character. It may not have been ideal character. It certainly was not character in its highest expression. But it was the sum of the man's whole personality. All the power of him, all the pith and punch of invincible determination, went into the winning of his fight. The bulldog shows the same strength of will when he lets himself be choked or cut to pieces rather than let go his grip on the other dog's jugular.

It is this readiness to be killed, if need be, if one cannot best one's adversary, which wins the battle of life for men and the wars of nations for their existence. Such a readiness is a form of character and the product, whether awares or unawares, of a fight to achieve character. It is the reaction of the spirit to the long working of life and circumstances upon the raw and plastic ore of human nature.

Make money, then, and do so honorably. Get understanding—for the sake of social service as well as your own growth. Win power over men through right methods of approach and appeal. But with all your getting and gains achieve character above all.

Nothing can take the place of character. It knows no substitute. Cleverness, cunning and shrewdness are paper money. Character is the gold which alone gives them value. Pierpont Morgan rated character above collateral as security for loans and credit. Character is the best of all assets.

PIPELESS SYSTEM THAT SAVES FUEL.

A single register system that is said to burn any kind of fuel and is easily installed is the 1-Register "Clean Air" system of heating and ventilation. This system is claimed to be high in heating efficiency, low in fuel consumption and to need little attention.

The law of gravitation is the basis of the air circulation and ventilation in the "Clean Air" system. Warm air, being lighter than cold air, is forced upward; thus the warm air coming from the centralized register is distributed over the house and the cooler air is drawn toward the register.

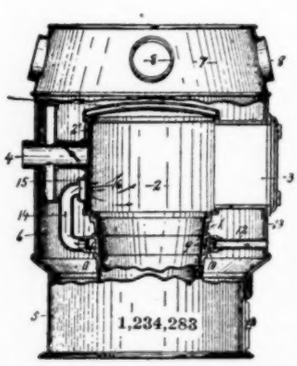
One of the important features of the heater, which is indicated by its name, is the air washing system

Air Washer of the 1-Register "Clean Air" System.

covering the bottom of the heater, as shown herewith. The air is cleaned and purified by circulating through this washer, in this way insuring health, comfort and cleanliness. This system is made in seven sizes and dealers should write to the Standard School Heater Company, Chicago, for catalog giving full particulars.

SECURES PATENT FOR WARM AIR HEATER.

Frederick R. Butters, Syracuse, New York, assignor to the Syracuse Heater Company, Adams, New York, has been granted United States patent rights, under number 1,234,283, for a heater described in the following:



In a heater of the character described, the combination of a fire pot having a hollow section provided with a cold air inlet and a hot air outlet, a heat-radiating drum mounted on the fire pot and provided with a fuel inlet and a smoke outlet and also having a relatively small area of one side thereof perforated, a pipe leading from the air inlet to the atmosphere, and a separate pipe leading from the hot air outlet and covering the perforated area of the drum to conduct the heated air into the interior thereof.

A self-made man is as proud of the outcome as he is of his income tax.

ARE SCHOOLROOMS DRIER THAN DESERTS?

By GEORGE T. PALMER, Chief of Investigating Staff of New York State Commission on Ventilation.

A very absorbing and enlightening paper on the subject of humidity in schoolrooms was prepared by George T. Palmer, Chief of the Investigating Staff of the New York State Commission on Ventilation, for presentation at the Summer Meeting of the American Society of Heating and Ventilating Engineers in Chicago. Mr. Palmer's paper was entitled "Are Schoolrooms Drier Than Deserts?" and in his absence it was read by J. Irvine Lyle, president of the Society. The paper was essentially as follows:

ARE SCHOOLROOMS DRIER THAN DESERTS?

The statement has been made on numerous occasions that the air of schoolrooms in our northern climate during winter weather is drier than the air of deserts. We are led further to infer that this greater dryness of the air makes us feel dry and that in consequence, our work suffers and our health is jeopardized. The schoolroom is judged drier than the desert because it has a lower relative humidity. The above evil effects are thus laid primarily at the door of low relative humidity. The present paper is an effort to remove from the shoulders of low relative humidity the full weight of this charge and to show that what guilt there is should be shared by other factors as well.

In an article on the humidity of the air in schoolrooms, Brown (1911) states that a schoolroom with 37 per cent. relative humidity is no better than a desert and that the humidity in schoolrooms should be more like that found outdoors. Readings made indoors during October and November at Worcester, Massachusetts, showed average relative humidities of 44 per cent. in October and 37 per cent. in November. Readings reported from deserts are as follows (temperatures not given):

Location.	Percentage Relative Humidity.
Trans Caspian Desert in Asia	19-40
Tripoli, Africa	33
Sahara	27
Lahore, India	31
Death Valley, California	23
Pueblo	46

More recently in an article on the aridity of living rooms in cold weather by Flora (1917), of the U. S. Weather Bureau Service, attention is called to the greater dryness of living rooms in Topeka, Kansas, as compared with deserts, viz.: "It is somewhat startling to learn that a majority of people in the northern half of the United States live in ultra-desert conditions during the winter time. This, however, can be proved by a careful measurement of indoor air in cold weather." There are then quoted various measurements of relative humidity, as follows:

Stations.	Average Annual Relative Humidity Per Cent.	Average Relative Humidity during dryest months of year, and month.
Yuma, Arizona	43	35 June
Santa Fe, New Mexico	45	29 June
Pueblo, Colorado	46	
Death Valley, California	23	(May-September, 1891)
Topeka, Kansas (Indoors, winter), Indoor temperature, 72 degrees, Fahrenheit	23	

Dryness Records in Public Schoolrooms.

If relative humidity is the sole criterion of dryness, we should expect to find complaints of dryness in schoolrooms with low relative humidities.

From daily records collected by the New York State Commission on Ventilation in Public School A, during the period of December 11, 1916, to January 31, 1917, the average relative humidity was found to be 25.6 per cent. There were 184 school sessions measured in four different rooms and on 59 of these sessions the teacher of the room complained of dryness. This suggests a serious effect of low relative humidity.

Measurements were also made during the same period in three other classrooms, readings being made on 189 sessions. The average relative humidity was 27.7 per cent., 2.1 per cent. higher than in the other rooms. Dryness was complained of by these teachers on only four sessions. It is inconceivable that anyone can ascribe the difference in the sensation of dryness to this 2.1 per cent. difference in relative humidity. We must look into the other air factors in the two types of rooms.

In the rooms complained of as dry, the average temperature was 68.08 degrees, in the other rooms the temperature was 67.66 degrees. The dry rooms were thus but slightly warmer. In the rooms complained of as dry, the air flow as measured at the opening of the exhaust duct with an anemometer, averaged about 1100 cubic feet per minute. These rooms were ventilated by means of plenum fans and gravity exhaust ducts; the incoming air passed through a humidifying pan in the basement; the windows were kept closed. The course of air currents was such as to sweep or flush the occupied region of the room effectively and uninterruptedly. The effectiveness of air flushing is testified to by the carbon dioxide analysis which averaged 6.39 parts per 10,000.

The second group of rooms was ventilated by means of open windows and gravity exhaust ducts. The air flow was variable; at times it exceeded 1100 cubic feet per minute, for the session; at other times it was less than 200 cubic feet per minute. The air flow was thus neither continuous nor uninterrupted; it was variable and it was pulsating or periodic. The flushing of these rooms was not as effective as in the others, the carbon dioxide rising to 7.50 parts per 10,000. (The number and ages of the pupils were about equally balanced in the two groups.)

The air in these two groups of rooms differed mainly in the rate of replenishment and the course taken by the air in passing through the room. It is this cause then which seems to explain the difference in dryness in the two cases fully as much, if not a great deal more, than relative humidity.

To illustrate further the inoffensiveness of low relative humidity under certain conditions we may quote specific measurements in the two types of rooms, as in Table 1.

TABLE I. EXAMPLES OF LOW RELATIVE HUMIDITY AND ITS EFFECT ON THE SENSATION OF DRYNESS.

Room Number.	Date.	Temperature, degrees Fahrenheit.	Relative Humidity, per cent.	Teachers' Moisture Vote.	Commission Observer's Moisture Vote.
	FAN VENTILATED ROOMS.				
304	Jan. 11, p.m.	67.5	13	Dry	Dry
	Jan. 12, a.m.	70.5	12	Dry	O.K.
	Jan. 12, p.m.	66.5	11	Dry	O.K.
308	Jan. 11, p.m.	71.0	15	Dry	Dry
	Jan. 12, p.m.	69.0	11	O.K.	O.K.
	Jan. 15, a.m.	67.0	15	O.K.	O.K.
	Jan. 15, p.m.	64.0	17	O.K.	Dry
	Jan. 19, p.m.	69.0	14	O.K.	O.K.
	WINDOW VENTILATED ROOMS.				
	(Less air movement in occupied portion of room.)				
503	Jan. 12, a.m.	70.0	15	O.K.	O.K.
	Jan. 19, p.m.	66.0	17	O.K.	O.K.
502	Jan. 12, a.m.	71.5	18	O.K.	Dry
	Jan. 12, p.m.	68.0	16	O.K.	O.K.
	Jan. 26, p.m.	64.0	18	O.K.	O.K.
312	Jan. 12, a.m.	70.0	15	O.K.	O.K.
	Jan. 17, a.m.	69.0	13	O.K.	O.K.

During a 16 week study from December to April at Public School B, the teachers reported dryness on only two occasions in one room and not once in the other. The air movement factors were about equally balanced. The respective temperature averages were 67.77 degrees and 67.00 degrees; the relative humidities were 28.7 per cent. and 42.2 per cent.

At Public School C during February and March, 1917, three fan ventilated, humidified rooms were contrasted with three window ventilated, unhumidified rooms. Both types of rooms had gravity exhaust. The humidified rooms had the following average conditions: Temperature 67.8 degrees, relative humidity 38.0 per cent., carbon dioxide 5.7 parts per 10,000; the unhumidified rooms had a temperature of 68.4 degrees, a relative humidity of 33.3 per cent. and a carbon dioxide content of 8.6 parts. There were complaints of dryness on only five sessions in the whole study, but all of these complaints were associated with the *fan ventilated, humidified* rooms, the rooms with the higher relative humidity and the lower temperature, but the greater air circulation.

The Physics of Evaporation.

It is evident from the above that air does not necessarily feel dry just because of its low relative humidity. If the feeling of dryness is the result of the removal of water by

evaporation, there is no reason from the standpoint of physics for expecting a feeling of dryness solely because the relative humidity is low.

The reason why water evaporates or becomes a vapor or gas, is because there is a force acting which tends to make water leave the surface of the liquid and pass into the air. This force is vapor tension. The vaporous water in the air has a tension or pressure and the liquid water also has a tension or pressure. Water flows from the point of higher to lower pressure. When the vapor tension of the liquid water is greater than that of the air, there is a transference of water from liquid to air—this is what we term *evaporation*. When the air tension is greater water passes from its vaporous state toa liquid state—this is *condensation*. The greater the difference in vapor tension the more rapidly does the change in state take place.

The vapor tension of a liquid increases with the temperature. The warmer the liquid, the greater is its tendency to evaporate. Where air and water are at the same temperature, and the air is at 100 per cent. relative humidity, neither evaporation nor condensation take place. The vapor tensions of air and liquid balance. To cause evaporation it is necessary that at least one of two things should happen to the air, viz: 1, a rise in temperature which automatically lowers the *relative* humidity, or 2, a decrease in relative humidity of the air, the temperature remaining unchanged.

Except in enclosed places, the air is rarely, if ever, at 100 per cent. relative humidity. If allowed to stand long enough, a jar of water will attain the same temperature as the surrounding air; by reason of the under-saturated state of the atmosphere commonly occurring, evaporation will then take place. Just as soon as evaporation begins, the water content of the air immediately above the surface of the liquid becomes greater than the air further away. The tension of the air immediately over the liquid is thus greater than that further away; if this tension builds up more and more, evaporation will be reduced accordingly. The way to prevent this tension from building up is to move the higher tension air away and bring lower tension air in contact with the liquid. This is the effect of air circulation.

Evaporation of a liquid is thus encouraged by air circulation which in substance amounts to making the most efficient use of the natural temperature and relative humidity of the air at large. With poor circulation, vapor tension builds up near the surface of the liquid, cutting down the inherent evaporative power of the air. With good circulation, the evaporated water is carried away from the surface of the liquid before it has an opportunity to accumulate.

In the natural course of things then, evaporation from an exposed body of water, or from a wet surface, depends on three factors in the surrounding air: *a.* temperature, *b.* relative humidity and *c.* rate of air movement.

Now, inasmuch as it sometimes happens that practical demonstrations do not work out as smoothly as the theoretical discussion would lead us to believe, the principles above enunciated would carry more weight if supported by actual measurements. Supporting data are available from several sources.

Here follows notes on the measurement of evaporation with the Atmometer and with the Wet-Bulb Kata thermometer. Mr. Palmer points out that there is a distinction between *dryness* of air and *dryingness* of air. The schoolroom air is dryer than desert air; it contains less moisture. The desert air is the more drying of the two as measured by the two instruments. He then continues:

Evaporation of Water from the Living Body.

In spite of the above we are not at liberty to reason blindly that because the atmometer and the kata-thermometer lose more water in desert air, that the human body will necessarily do so and it is the human body in which we are primarily interested in the present discussion.

The surface of the atmometer cup is wet; the surface of the wet kata-thermometer bulb is wet, saturated with water—these instruments are wet regardless of the temperature. This is not true of the human body; the clothed body never presents a saturated surface to the surrounding air. It is nearer saturation in summer than in winter; in winter neither the clothes nor the skin are wet. There is perhaps an extremely thin film of moisture on the skin surface at all times, but the water area exposed in winter is ever so much less than in summer when sweat is exuding from the pores in quantity. Thus the human body differs from the atmometer and wet bulb kata-thermomter in that the area of its water surface is largely dependent on temperature, the temperature of the air and the temperature of the body.

Independently then of relative humidity and air movement, and in this differing from the two instruments referred to, the human body loses a greater quantity of water at higher temperatures.

In the 100 degree desert, man keeps his body temperature from rising by evaporating water from skin and lungs; heat loss by radiation is ineffective. The entire burden of heat dissipation must be borne by the sweat glands of the skin and the moist membranes of the respiratory passages. The amount of water given off through the lungs and skin under these two conditions may be approximated in the following calculations; the data are taken from the studies of Benedict and Milner (1903)—heat output of a 150 pound man at rest is 344 British thermal units per hour at room temperature (probably 70 degrees and 55 per cent. relative humidity); the water output through the lungs and skin amounted to 33 grams.

Assuming heat output less in hot desert by reason of decreased heat production, let us use 300 British thermal units per hour; latent heat of vaporization of water at 98 degrees is about 1040 British thermal units per pound of water.

$\frac{300}{1040} = 0.294$ pounds of water per hour or 134 grams of water per hour.

When the body is getting rid of all its heat through vaporization there is given off 134 grams of water per hour. This is about four times the amount of water given off at room temperature and 55 per cent. relative humidity. The amount given off at 70 degrees and a much lower humidity, say 20 per cent., would probably be more than 33 grams, but the ratio of 4 to 1 would not be greatly changed for Benedict's results show that the water output is ever so much more dependent on heat production or work than relative humidity of the air.

From the foregoing, it appears that the human body, with its regulatory mechanism, would lose more water in desert air than in dry schoolroom air, just as do the atmometer and the wet bulb kata-thermometer. This brings us to the point where we may ask:—Do we feel dry just in proportion to the rate at which we lose water? Generally so, although not altogether so.

The Sensation of Dryness and Its Cause.

There are instances in our experience where we lose relatively a small amount of water and still feel dry. On a hot summer day, we lose vast quantities of water through the elimination of sweat and its evaporation. We feel dry, but it is only when we are unable to make up this water loss by drinking that the feeling of dryness becomes acute.

On a cold, windy day in winter we feel dry. This sensation must come not from a water loss that is at all comparable with the summer illustration, but from the appreciable evaporation of what water is accessible on the skin, and the failure of the cold, contracted, waterless skin surface to keep the supply up to the demand. We feel dry in the winter time in certain adequately air-flushed schoolrooms particularly if they are slightly warm. This feeling would seem to be due not so much to excessive, as to rapid, evaporation from the skin with consequent insufficient water replacement.

Summary.

1. We may conclude this paper by stating that, in the first place, schoolrooms admittedly dry and drying do not appear to be as dangerous to health as deserts. This assertion is based on a familiarity with many schoolrooms in the Northeastern States and a perusal of the accounts of desert conditions in the works of geographers and travelers. Warm, dry schoolrooms have without doubt been the cause of many headaches, lowered vitality, colds and inattentiveness, but even so, the results do not seem as severe as the effect of desert air. Two citations will illustrate this:

Huntington (1915) states that "in such a place as Death Valley in summer, with the thermometer at 100 to 135 degrees in the shade, it is almost impossible to drink enough water to preserve normal physiological conditions. Even a brief period of physical activity gives rise to much discomfort, and people who stay through the summer are in danger of suffering permanent injury to health."

Macfie (1909) observes that a "too dry climate, or rather a climate with too great drying capacity, seems in time to have an exhaustive effect on the European constitution. . . . The extreme summer heat of the African desert is certainly most enervating and there can be little doubt that many lives have been lost by a compulsory summer sojourn on the South African Karroo."

2. Schoolroom air may and does contain less moisture during much of the winter season than desert air.

3. Schoolroom air has as low or lower relative humidity than desert air.

4. Schoolroom air does not extract as much moisture from wet objects nor from the human body as desert air.

5. On the basis of their dehydrating power, schoolroom air is not dryer than the air of deserts.

6. Schoolrooms, at low relative humidity but without excessive, continuous air flow and too great warmth (over 68 degrees), do not ordinarily even feel uncomfortably dry.

7. Relative humidity by itself is thus a criterion of neither dryness, nor dryingness, nor the sensation of dryness.

PRACTICAL HELPS FOR THE TINSMITH

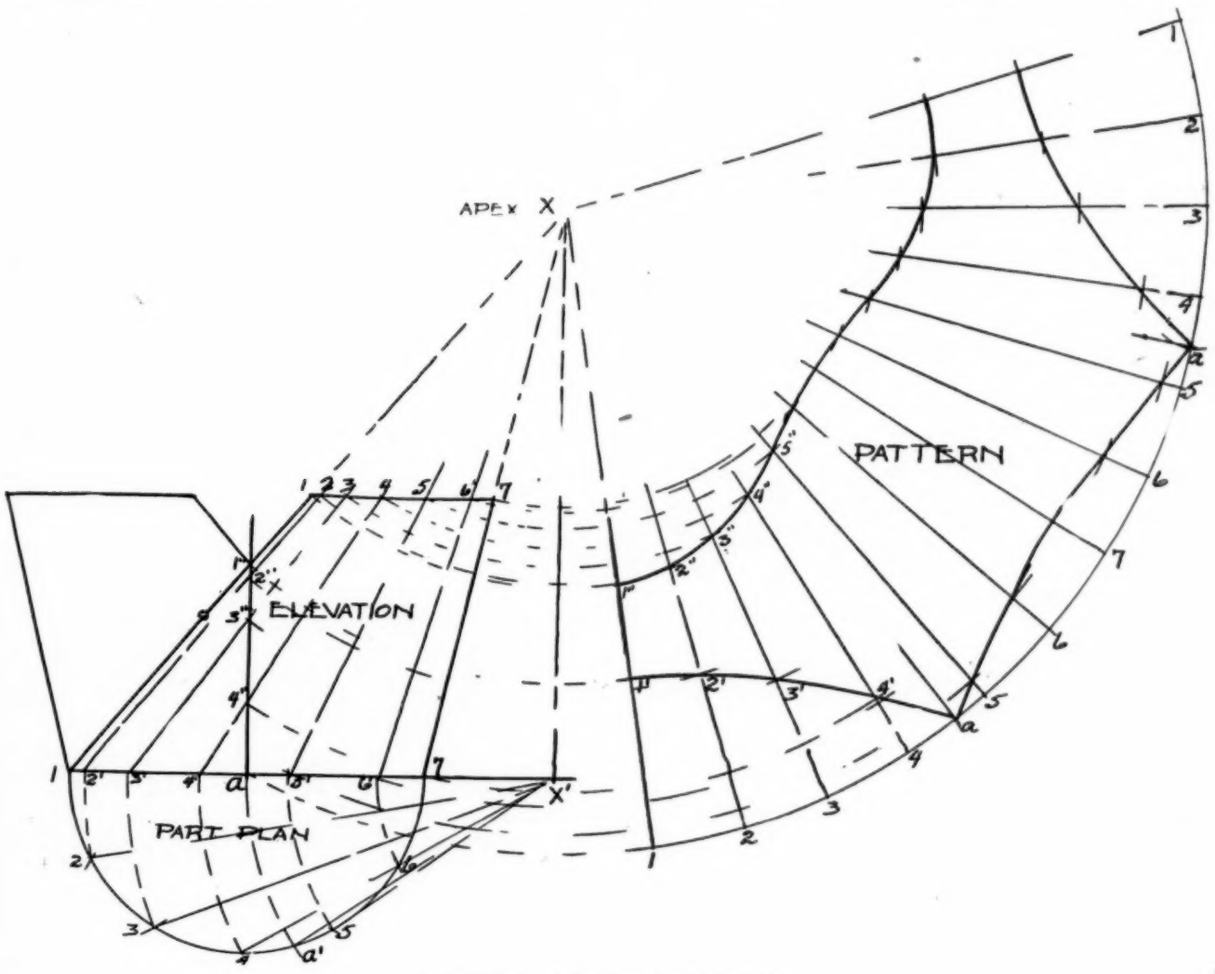
PATTERNS FOR Y-BRANCH.

BY O. W. KOTHE.

Replying to the inquiry of the Subscriber desiring Y-branch according to sketch on page 42 of the June 9th issue in AMERICAN ARTISAN, this drawing will give the solution.

The idea is to first draw your elevation, making your base lines to suit measurements and also projecting the prongs to the desired angle. Next extend the side lines of one prong, until they meet the apex X. Drop this point to the position X′ and describe the half section of part plan. Divide this into equal spaces as from 1 to 7 and from X′ sweep your points to the base lines as shown. Then from this point draw lines cutting the base lines also vertical miter line to point X. This finishes the drawing for your elevation and you are now ready to develop the pattern.

To set the pattern out, sweep an arc from center X-a as radius, and on this arc 1-1 step off the stretchout taken from the half section of part plan. From these points draw radial lines to the apex X, and then with dividers set to each point in the base lines, sweep point into stretchout, thus cutting lines having similar number as in point 1′-2′-3′-4′-a, etc. Also 1″-2″-3″-4″-5″, etc. Through these points draw a free-hand curve and you have the pattern finished. Laps for seaming or riveting must be allowed extra.



Development of Pattern for Y-Branch.

The Subscriber shows a Y branch with two 10-inch pipes running into a 12-inch pipe, and a reader from Kansas, who signs himself "J. W. M.," points out that if the Subscriber uses two 10-inch pipes off a 12-inch run he is going to have trouble in heating his rooms. A 12-inch pipe has an area of 113 square inches and a 10-inch pipe has an area of 78 square inches. Hence two 10-inch pipes have a combined area of 156 square inches. This exceeds 113 by 43 square inches, which is practically the capacity of a 7½-inch pipe. A pipe of about 14 inches diameter has an area of 156 square inches.

Most men's prospects are better than their examples.

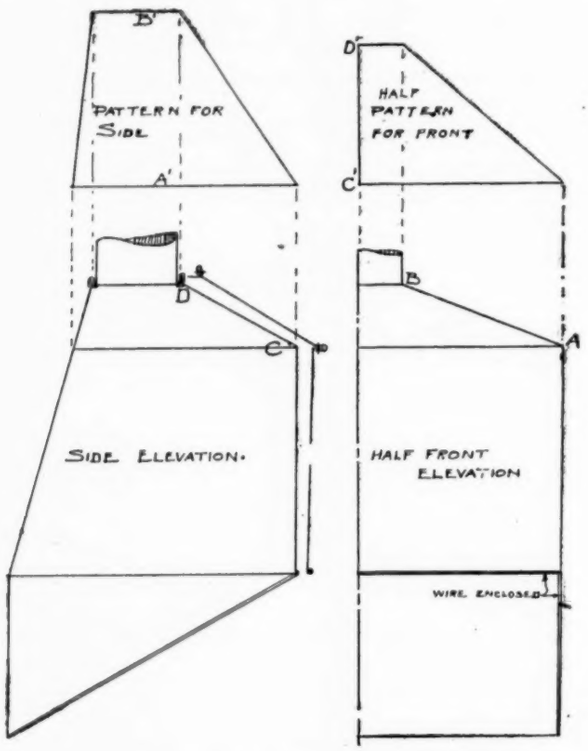
PATTERNS FOR CHEMICAL HOOD.

BY O. W. KOTHE.

This sketch was sent in for the method of developing the patterns required for the hood as shown in the half front and side elevation.

By a second look, we see that the real body and the lower triangle apron are just flat, box-like pieces of metal. The top forms the only complication.

To lay this out, note how the side miters to the front, and the front miters to the side. Therefore



Development of Patterns for Chemical Hood.

pick the side line A-B from front elevation and set it as A′-B′ over the side elevation. Then project your lines as shown. This gives you the pattern for the side.

The same holds good in the pattern for the front, picking the line C-B from the side elevation and setting it as C′-D′. Then project your pattern, a half of which is here shown. Edges for standing seams or riveting must be allowed extra. The round pipe is attached by cutting a square piece of metal and bending edges on as shown at D. Of course the workman has his own choice on how he wishes to make his seams and join the various sides together.

EFFECTIVE ADVERTISING.

To American Artisan and Hardware Record:

Please discontinue our ad in your paper, as we have secured a man. If we had employed all who answered that ad, we'd have needed a "wholesale business" to keep them busy. Thank you for your co-operation.

Yours very truly,

L. F. Peterson.

Paxton, Illinois, August 2, 1917.

MILWAUKEE SHEET METAL CONTRACTORS TO HOLD PICNIC AUGUST 15.

At the regular monthly meeting of the Master Sheet Metal Contractors' Association of Milwaukee on August 1st, the Picnic Committee reported that the annual outing of the Association would be held Wednesday, August 15th, at Mequon, Green Bay Road, near last year's picnic grounds. The Committee further announced that it would not be necessary to go to the inconvenience of carrying refreshments or lunch as these can be purchased reasonably at the grounds. The members will assemble at the Builders' Club at 9:00 A. M. of the 15th and then proceed to the scene of the festivities.

The meeting of the Association was presided over by President John Bogenberger, and in the absence of the secretary, Paul L. Biersach was requested to act as secretary pro tem. Mr. Biersach, as chairman of the Convention Committee, made a brief report stating that the Committee had not yet been thoroughly organized and that this could not be accomplished for a week or ten days, owing to the vast amount of statistics and data being gathered. When this is done, they will have clear sailing and something definite to work upon. A detailed report will be made at the next meeting.

GEROCK BROTHERS COMPANY MAKE BIG ORNAMENT FOR CANADIAN OBSERVATORY.

The Gerock Brothers Manufacturing Company, St. Louis, Missouri, makers of architectural sheet metal work, have produced many noteworthy pieces of work, a recent one of these being the stamped ornament shown in the accompanying illustration. This repro-

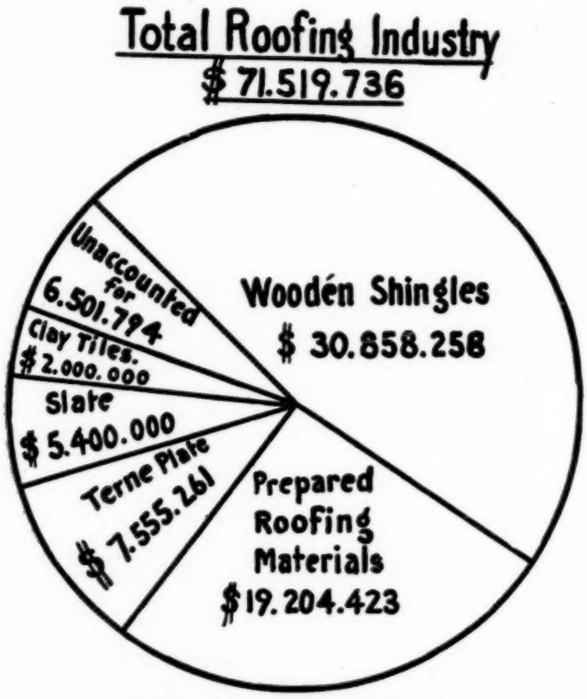
Stamped Ornament of British Coat of Arms.
For Dominion Observatory, Victoria, British Columbia.

duction of the British Coat of Arms, which is sheet zinc in very bold relief and measures nine feet wide and five and one-half feet high, was made by the company for a sheet metal firm in Vancouver, British Columbia, who had the contract for the sheet metal work on the Dominion Observatory at Victoria, British Columbia. They submitted a small blue print of a rough sketch and requested the manufacturers to furnish a photograph of the full size model for approval, which was done to their satisfaction. Information about ornamental sheet metal work and statuary, together with catalog, can be obtained by addressing the Gerock Brothers Manufacturing Company, 1227 South Vandeventer Avenue, St. Louis, Missouri.

TREMENDOUS FIRE LOSSES OPEN THE WAY FOR METAL ROOFING.

In the United States every year there is a fire loss of over two hundred millions of dollars. One state, Massachusetts, compiles actual statistics of its fire losses, and in 1915, 4,576 dwellings caught fire, of which number 365 fires were caused from outside sources, such as sparks from another fire, from chimneys, fireworks and lightning, according to a statement by C. D. Mercer, of the Commercial Research Division of the Curtis Publishing Company, Philadelphia, in a recent address.

The man whose house catches fire has one chance in eight of it being caused by an outside agency over which he has no control. And because thousands of house owners do not know any better than to take this chance, we have these hundreds of fires, such as those previously mentioned, being caused by outside



The "Pie" of the Roofing Industry.

agencies, and millions of dollars' worth of damage annually—all because wooden shingles or other inflammable material is used for roofing purposes. Metal roofing is the greatest fire retardant, and this offers to the enterprising sheet metal contractor the opportunity of boosting a roofing material that is fire-protecting in every sense of the word and will not burn, crack, crumble or break under the influence of heat.

New building construction is going on at present in the United States at the rate of a billion dollars a year, and if you translate this into roofing terms, it means twenty to thirty million dollars worth of new business, to say nothing of the replacements which amount to many million dollars more.

In 1910 the value of terne plate roofing used amounted to approximately $7,555,261, out of a total of over $71,000,000, or about 10 percent. Wooden shingles in that year were used to the extent of $30,850,258, or about 43 percent of the total. Clay tiles to the value of $2,000,000 were used; slate to the value of $5,400,000 and prepared roofing materials to the value $19,204,423, as you will see by the reproduction herewith of the chart prepared by Mr. Mercer for his address.

If we imagine a pie which represents the potential roofing business of the country, we can see that the pie does not belong exclusively to any one interest. A number are nibbling away at it, and wooden shingles is the big brother who has been using his elbows pretty freely and getting away with it. Wooden shingles are backed by what is called in New England, "grandfather good will." Everyone has a host of acquaintances who are doing the same things as their fathers and grandfathers did before them, so here we have a potent item in the roofing industry which is applied because custom has decreed that wooden shingles are the roofing to use. But people are learning to ignore custom because wooden shingles are exceptionally dangerous in case of fire.

The disastrous conflagration in Atlanta, which destroyed 75 blocks, proved that the wooden shingle is a great hazard and should not be tolerated. The people of Atlanta and other cities have learned the lesson, but at what cost! Many eminent authorities on fire protection have gone on record as condemning the wooden shingle, and the decreasing use of this material which will follow in due time, opens the way for sheet metal, the real fire-retarding roofing.

The sale of prepared roofing materials is next in volume to wooden shingles. This roofing does not have custom and tradition to back it up but it is relatively cheap in first cost and has the impetus of persistent nation-wide advertising, which opens the way to its use on thousands of homes throughout the country. Sheet metal may be higher in first cost, but it offers the greatest protection from fire and is admittedly the most durable, the most reliable, and in the long run the most economical of all roofings to use. Its application has lagged because it does not have the impelling forces that the other forms of roofing have and it is easy to comprehend that once the people of the country are apprised of its manifest superiority over all other forms of roofing and of the fact that it is a real fire-retardant, sheet metal will take the foremost position to which it is rightfully entitled, from every standpoint of safety, economy and durability.

THE DAY'S WORK.

This is the task appointed: To hold the vision of a final arrival at some fitting destination; to maintain undiminished a sense of personal worthiness; to be defeated in each foolish dream of the younger life, and so to be disciplined into a larger vision, made more sure by adversity; to be delayed for most of a lifetime—and yet to believe in the strength of the human spirit to surmount pain, outlive sin, and defeat malice and envy; to believe in the gradual but all-conquering power of good will; to be saddened but not embittered; to be beaten but not conquered. That is the stern business set before us.—*Collier's.*

WILCOX BILL ON INDUSTRIAL EDUCATION.

In the July 21st issue of AMERICAN ARTISAN AND HARDWARE RECORD an outline was given of the Bray Bill, concerning the administration of industrial education in Wisconsin, which was recently passed by the Wisconsin state legislature. The enactment of this bill and its companion, the Wilcox Bill, gives to Frank L. Glynn and others who have been foremost in the matter of industrial education, the support and the encouragement that they have needed to insure the uninterrupted progress of vocational training in the state.

The Wilcox Bill, introduced by Senator Roy Wilcox, Eau Claire, provides for the extension of attendance time from four hours to eight hours weekly in the Wisconsin Continuation Schools, and reads as follows:

WILCOX BILL ON INDUSTRIAL EDUCATION.

To amend section 439a-1, subsection of section 1728a, subsection 1 of section 1728a-3, section 1728b, subsection 1 of section 1728c, subsection 1 of section 1728c-1, subsection 1 of section 1728e, and subsection 1 of section 1728o-2, to create subsections 2 and 3 of section 1728o-2, and to amend and renumber subsection 2 of section 1728o-2 to be subsection 4 of said section, of the statutes, relating to attendance of minors in continuation schools.

The people of the state of Wisconsin, represented in senate and assembly, do enact as follows:

Attendance at Schools.

Section 1. Section 439a-1, subsection 1 of section 1728a, subsection 1 of section 1728a-3, section 1728b, subsection 1 of section 1728c, subsection 1 of section 1728c-1, subsection 1 of section 1728e, and subsections 1 of section 1728o-2 of the statutes are amended to read: Until September first, 1918, any person between the ages of fourteen and sixteen, and after that date any person between the ages of fourteen and seventeen who is living within two miles of the school of any town, or within the corporate limits of any city or village and not physically incapacitated, who is not required by section 439a to attend some public, private or parochial school, and who is not attending a free high school or equivalent of a high school, must either attend some public, private or parochial school, or attend for at least eight hours a week for ten months, an industrial, continuation or commercial school, provided such school or schools are maintained according to the provisions of sections 553p-1 to 553p-9, inclusive, in the town, village or city in which his parents or guardians reside. This section shall apply only to persons between the ages herein specified living in towns, villages and cities maintaining schools as provided in sections 553p-1 to 553p-9 inclusive, of the statutes.

Permits for Work.

(Section 1728a) 1. No child between the ages of fourteen and eighteen years unless indentured as an apprentice, as provided in section 2377 of the statutes, shall be employed, required, suffered or permitted to work at any time in domestic service or in any factory, or workshop, store, hotel, restaurant, bakery, mercantile establishment, laundry, telegraph, telephone or public messenger service, or the delivery of any merchandise or at any gainful occupation, or employment, directly or indirectly, unless there is first obtained from the industrial commission, or from a judge of a county, municipal, or juvenile court designated by the industrial commission where such child resides, or from some other person designated by said commission, a written permit authorizing the employment of such child in such employment within such time or times as the said industrial commission or a judge or other person designated by said commission may fix, providing, that such times shall not conflict with those designated in subsection 1 of section 1728c.

(Section 1728-3) 1. The permit required by section 1728a of the statutes shall contain the signature of the director of the continuation school where the child is to attend and state the name, the date and place of birth of the child, and describe the color of hair and eyes, the height and weight, and any distinguishing facial marks of such child, and that the papers required in subsection 2 thereof have been duly examined, approved and filed.

Register of Minors Employed.

(Section 1728b) 1. Every person, firm or corporation, agent or manager of any firm or corporation employing minors in domestic service or in any factory or workshop, store, office, hotel, restaurant, bakery, mercantile establishment, laundry, telegraph, telephone or public messenger service within this state shall keep a register in the place where such minor is employed, and subject at all times to the inspection of any factory inspector, or assistant factory inspector, or truant officer, in which register shall be recorded the name, age, date of birth and place of residence of every child employed, permitted or suffered to work therein, under the age of eighteen years, except as provided by section 2377 for indentured apprentices.

2. No person, firm or corporation, agent or manager of any firm or corporation shall hire or employ, permit or suffer to work in any domestic service, mercantile establishment, factory or workshop, store, office, hotel, restaurant, bakery, laundry, telegraph, telephone or public messenger service, any child not indentured as an apprentice as provided in section 2377, under eighteen years of age, unless there is first provided and placed on file in such mercantile establishment, factory, workshop, store, office, hotel, resturant, bakery, laundry, telegraph, telephone or public messenger service office a permit granted by the industrial commission or by any judge or person designated by said commission as provided in section 1728a.

Employment of Children.

(Section 1728c) 1. No child under the age of sixteen years shall be employed, required, permitted or suffered to work at any gainful occupation, other than domestic service or farm labor, for more than forty-eight hours in any one week, nor more than eight hours in any one day, or before the hour of seven o'clock in the morning or after the hour of six o'clock in the evening, nor more than six days in any one week. A dinner period of not less than thirty minutes shall be allowed during each day. During such dinner period the power shall be shut off from machinery operated by children, and no work shall be permitted. Provided, nothing in sections 1728a to 1728j, inclusive, shall be construed to interfere with the employment of children as provided in sections 1728a-1 and 1728u of the statutes.

Schooling for Employed Minors.

(Section 1728c-1) 1. Whenever any day continuation classes, industrial school or commercial school shall be established in any town, village or city in this state for minors between the ages of fourteen and sixteen, working under permit as now provided by law, every such child residing or employed within any town, village or city in which any such school is established, shall attend such school in the daytime not less than eight hours per week for ten months in each year subject to the provisions of 439a-1, until such child becomes sixteen years of age, and every employer shall allow all minor employes over fourteen and under sixteen years of age a reduction in hours of work of not less than the number of hours the minor is by this section required to attend school.

(Section 1728e) 1. The industrial commission or judge or other person designated by the commission under section 1728a, may refuse to grant permits in the case of children who may seem physically unable to perform the labor at which they may be employed. They may also refuse to grant a permit if, in their judgment, the best interests of the child would be served by such refusal.

Reduction in Working Hours.

(Section 1728o-2) 1. Whenever an industrial, continuation or commercial school shall be established according to the provisions of sections 553p-1 to 553p-9, inclusive, of the statutes, in any town, village or city, any minor not indentured as an apprentice as provided in section 2377 of the statutes, or not regularly attending any other recognized school between the ages of sixteen and seventeen, residing or working in such town, village or city, shall attend such school in the daytime not less than four hours per week for ten months in each year or the equivalent, as may be determined by the local board of industrial education. Every employer shall allow all such minor employes a reduction in hours of work of not less than the number of hours the minor is by this section required to attend school. Whenever the working time and the class time coincide, such reduction in hours of work shall be allowed at the time when the classes which the minor is by law required to attend are held.

Section 2. There are added to section 1728o-2 two new subsections to read: (Section 1728o-2) 2. From and after September first, 1918, whenever an industrial, continuation or commercial school shall be established according to the provisions of sections 553p-1 to 553p-9, inclusive, of the statutes, in any town, village or city, any minor not indentured as an apprentice as provided in section 2377 of the statutes, or not regularly attending any other recognized school between the ages of sixteen and seventeen, residing or working in such town, village or city, shall attend such school in the daytime not less than eight hours per week for ten months, or the equivalent as may be determined by the local board of industrial education.

Every employer shall allow all such minor employes a reduction in hours of work of not less than the number of hours the minor is by this section required to attend school. The total hours of schooling and employment for boys over sixteen and under seventeen years of age shall not exceed

fifty-five hours per week. Whenever the working time and class time coincide, such reduction in hours shall be allowed at the time when the classes which the minor is by law required to attend, are held.

Punishment for Violation.

Section 3. Subsection 2 of section 1728o-2 is amended to read: (Section 1728o-2) 4. Any violation of this section in a case involving a minor in employment shall be punished as is provided in the case of violation of the provisions of section 1728a of the statutes and any violation in a case involving a minor not in employment shall be punished as is provided in the case of violating the provisions of section 439a of the statutes.

Section 4. This act shall take effect upon passage and publication.

ADVANCED HOME STUDY COURSES IN SHEET METAL PATTERN DRAFTING.

The Yale School of Sheet Metal Pattern Drafting, recently organized with D. L. Gray, formerly of the Gray School of Pattern Drafting, as instructor, offers a complete, advanced new home study course in detailing and developing sheet metal work, every plate of which applies to the everyday requirements of a modern shop. Mr. Gray, having been a draftsman for large sheet metal works for twenty years, is thoroughly familiar with the short, accurate methods of detailing and developing patterns, and this knowledge, combined with his long experience as an instructor of home study work, has enabled him to arrange his home study course in such a way that any mechanic or advanced apprentice, it is said, will easily understand the problems, without any preliminary studies. Students are enrolling now, and instruction will be commenced September 1st. Circulars giving full particulars can be obtained by addressing the Yale School, Box 1531, New Haven, Connecticut.

TRADEMARK FOR VENTILATORS, STOVE PIPE ELBOWS, Etc.

Under serial number 101,969, copyright has been granted to the Sheet Metal Manufacturing Company, Incorporated, New York City, and Brooklyn, New York, for the trademark shown in the accompanying illustration. The Company claims use since January 1, 1917, and the claim was filed March 7, 1917. The particular description of goods is ventilators, stove pipe elbows, shanty caps, chimney caps, chimney jackets and register boxes.

101,969

METCO.

SAGINAW AGAIN WINS CHAMPIONSHIP OF MICHIGAN SHEET METAL CONTRACTORS.

At the 2nd Annual Field Days of the Michigan Sheet Metal Contractors' Association, which were held at Hague Park, Jackson, Michigan, recently, the Saginaw contractors again won the baseball championship, defeating the Battle Creek squad, 6 to 4, in the final match. In the preliminaries, Battle Creek had defeated Lansing, 13 to 12, and Saginaw had beaten Flint, 12 to 11. The scores indicate how close and exciting the games were. Alfred Greene acted as umpire and was right on the job all the time.

On the previous day the Traveling Salesmen defeated the Dealers by a score of 12 to 10, and the evening was spent in "taking in" all the side shows at Hague Park, with Frank E. Ederle as the guiding spirit. Secretary A. F. Martin of the Association felt deservedly proud of Saginaw, his home town, because it had again won the championship of the Association.

OBITUARY.

Lee McCallum.

An attack of heart disease while on the train from Dover, Delaware, to New York City caused the death of Lee McCallum recently. Mr. McCallum, with his father, John McCallum, founded the New York Metal Ceiling Company, 537-541 West Twenty-fourth Street, New York City, and he was the president of the Company at the time of his death. He was born in Sullivan County, New York, forty-nine years ago, and received his education at the New York City College and the New York University Law School. Mr. McCallum was admitted to the bar, but did not practice law, devoting all his time to business pursuits.

William Neale Goddard.

Word has been received of the death of William Neale Goddard, formerly with the sales department of the American Steel and Wire Company, while rescuing wounded on the battle front in France. Mr. Goddard, at the beginning of the war went to England and enlisted as a private. Shortly after he became captain of the 21st Battalion, Lancashire Fusiliers. He was accompanied to England by Mrs. Goddard, who served as a Red Cross nurse.

E. H. Brittan.

We regret to have to announce the death of E. H. Brittan, a popular hardware salesman, at his residence, 2714 Palmyra Street, New Orleans, Louisiana, on Saturday morning, July 28th, after a long illness. He was a charter member of the Old Guard Southern Hardware Salesmen's Association and was much interested in its affairs, and enjoyed the confidence and esteem of every member of the organization.

Charles H. Connor.

Charles H. Connor, who for many years has represented the Fuller & Warren Company of Milwaukee, as their stove salesman in the Northwest, died at his home in Minneapolis on Sunday last, July 29th. Mr. Connor had always enjoyed an enviable reputation among his legion of friends in the trade as well as in social life. He was born in Chicago and is survived by a widow and three children.

Jacob Fischer.

Jacob Fischer, president of the Indiana Stove Works, Evansville, Indiana, died of a complication of diseases on Saturday, July 28th. He was born in Germany sixty-nine years ago and came to Evansville when a boy. He was a business associate of John W. Boehne, former congressman, and is survived by his widow and three daughters.

TIN PRODUCTION IN ALASKA.

The United States Geological Survey has given special attention to the production of tin in Alaska. Last year's output was 139 tons, an increase of 37 tons over 1915, but it is the hope of the government officials that with the present high prices the production for the present year may total as much as 300 tons. In the Seward Peninsular, where placer tin was first mined, the source of this stream tin has been discovered and lode mining is now being carried on. In the other known Alaskan tin locality—the Hot Springs placer-tin region—Geological Survey men are this year searching for the source and are also urging the miners to save all their stream tin.

Stream tin is rather widely distributed in the Hot Springs district, but as yet few of the gold placer miners make any pretense of saving it. An effort is being made by the government geologists now on the ground to induce the miners to save and ship this stream tin, which should materially increase the total output from the territory. Placer mining in the Hot Springs district can be carried on for about three months in summer. In view of the great need of tin in the United States it is hoped that the Alaska miners will make every effort to increase their output.

FIREPOT WITH REMOVABLE TOP SECTION.

The Red-Hot Number 54 Firepot, which is shown in the accompanying illustration, has a removable top section, and this allows the mechanic to use the tank as an open flame or torch. Another desirable feature of this firepot is the tank made of heavy galvanized iron and fitted with a patented automatic pump, and the burner made of generator metal which gives an intense blue flame. The manufacturers claim the firepot is capable of heating 10-pound coppers and melting a pot of metal at the same time. It is made of high grade materials so as to give lasting satisfaction. Catalog can be obtained upon request from the Ashton Manufacturing Company, Newark, New Jersey.

Red Hot Number 54 Firepot.

NOTES AND QUERIES.

Electric Elevator.

From Young Hardware Company, Bellevue, Iowa.

Kindly advise who makes electric elevators.

Ans.—Northern Engineering Works, 536 Monadnock Block; Otis Elevator Company, 600 West Jackson Boulevard, both of Chicago; the Warner Elevator Manufacturing Company, Cincinnati, Ohio; and the Kimball Brothers Company, 1031 Ninth Street, Council Bluffs, Iowa.

Metal Pipe.

From W. W. Vanderlinden, 1210 A Avenue, Oskaloosa, Iowa.

Please advise who handles metal pipe of steel, brass, etc.

Ans.—Crane Company, 836 South Michigan Avenue; Illinois Pipe and Manufacturing Company, 110 South Dearborn Street; George B. Limbert and Company, 558 Fulton Street; and Walworth Manufacturing Company, 220 North DesPlaines Street; all of Chicago.

Corrugated Steel Grips.

From F. J. Townsend, Painted Post, New York.

Kindly tell me of some manufacturer who will make about 30,000 corrugated steel grips that are milled of steel and tempered.

Ans.—E. B. Lanman Company, 213 Railway Exchange Building, Chicago.

Bless and Drake Sad Iron.

From John F. Cartwright, 326 Main Street, Bowling Green, Kentucky.

Can you give me the address of Bless and Drake, who make a sad iron?

Ans.—Newark, New Jersey.

Oil Burner for Warm Air Heater.

From Julius Meyer, Algoma, Wisconsin.

Please advise who makes an oil burner to attach to an ordinary warm air heater.

Ans.—Detroit Vapor Stove Company, Detroit, Michigan; Regal Burner Company, 1466 Addison Street, Cleveland, Ohio; and Vapor-Gas Burner Company, Columbus, Ohio.

Champion Ventilator.

From L. R. Hamman, Decatur, Illinois.

Who makes the Champion Ventilator?

Ans.—Champion Manufacturing and Sales Company, Pierce Building, St. Louis, Missouri.

ITEMS.

The Stamford Rolling Mills Company, Stamford, Connecticut, has awarded the general contract for a 1-story, 40 by 50-foot mill addition, costing $3,000.

T. J. Ray, assistant manager of the Cleveland plant for the Peck, Stow & Wilcox Company, has been elected a director of the company to succeed W. R. Wakely, who resigned because of ill health.

The Dreis & Krump Manufacturing Company, 2915 South Halsted Street, Chicago, makers of machines for sheet metal work, are erecting an addition to their plant to take care of their increased business. The addition is a one-story brick building, 22x83 feet.

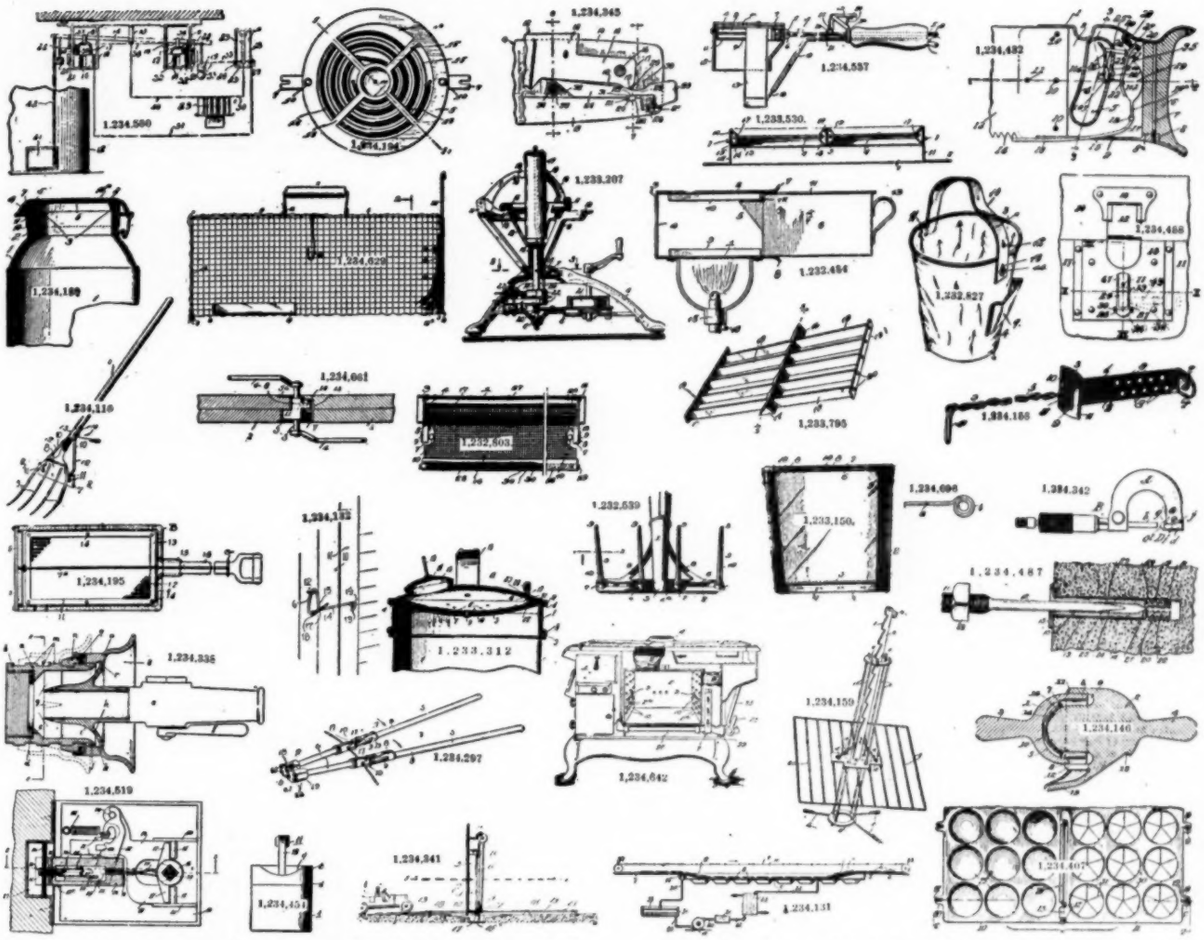
Within the next few weeks the American Sheet & Tin Plate Company will be operating twenty new hot mills, ten at Farrell and ten at New Castle, Pennsylvania. The first units have already been started. The extensions for the two works will cost about $3,000,000.

The Unit Ventilating Company, Brooklyn, New York, has been incorporated with $25,000 capital by A. Bautz, W. F. Brown and J. F. Maguire. They will conduct a business for the manufacture of ventilators, in addition to engaging in business as mechanical and electrical engineers.

The Steel Company of Canada has purchased from the city of Hamilton, Ontario, a tract of land upon which it has commenced the erection of a sheet steel plant, which, when in operation, will help to supply the Canadian demand for sheet steel. A small plant now located at Wallaceburg, Ontario, will be removed to Hamilton.

When a job gets too big for you don't be backward about calling in help. There is no merit in sticking to it alone until it is too late to be helped.

NEW PATENTS.



1,234,110. Scraper Attachment for Pitch-Forks. Mark Albro, Brampton, N. D. Filed March 26, 1917.

1,234,131. Apparatus for Cooking Articles of Food. Francis D. Cleveland, Cambridge, Mass. Filed Aug. 1, 1916.

1,234,132. Gate or Door Latch. William J. Cluts, Vienna, S. D. Filed April 30, 1917.

1,234,146. Lemon-Squeezer. Dominique Du Boe, New York, N. Y. Filed Feb. 7, 1917.

1,234,158. Fastening Device for Door. John B. Hall, Philadelphia, Pa. Filed June 10, 1916.

1,234,159. Toaster. Frank Dudley Hannum, Miles City, Mont. Filed April 25, 1917.

1,234,189. Milk-Can. Marion MacMillan, New York, N. Y. Filed March 5, 1913. Serial No. 752,038. Renewed Sept. 29, 1913.

1,234,195. Ash Sifter and Scoop. James F. Murphy, Brooklyn, N. Y. Filed Feb. 9, 1917.

1,234,196. Heating-Coil Disk. Morton Murphy, Janesville, Wis. Filed April 15, 1916.

1,234,297. Wire-Stretcher. John William Dean, Cragford, Ala. Filed Dec. 23, 1916.

1,234,338. Hose-Nozzle. Clyde F. Hughes, Portland, Oreg. Filed Aug. 14, 1916.

1,234,341. Door-Operating Mechanism. Orville C. Johnson, Aurora, Ill. Filed March 17, 1916.

1,234,342. Attachment for Calipers. Robert A. Johnson, Springfield, Mass. Filed Aug. 16, 1915.

1,234,345. Knife. Charles R. Keeran, Chicago, Ill. Filed April 15, 1916.

1,234,407. Mold for Baking Rolls. Koloman Stiga, New York, N. Y. Filed Feb. 26, 1916.

1,234,432. Saw-Handle John Luther Whitworth, Brownsville, Tex. Filed Feb. 10, 1917.

1,234,454. Keyless Padlock. James A. Ferguson, Plummer, Idaho. Filed Sept. 11, 1916.

1,234,487. Expansion Stud-Bolt. George C. Raeger, Waterloo, N. Y. Filed Aug. 20, 1915.

1,234,488. Lock. Jacob L. Rebilas, Shamokin, Pa. Filed Dec. 13, 1916.

1,234,500. Regulator. Allen M. Smith, Fort Snelling, Minn. Filed July 23, 1915.

1,234,519. Lock. Margaret B. Williams, Chicago, Ill. Filed July 3, 1915.

1,234,557. Soldering-Tool. Theodore W. Moericke, Kenosha, Wis. Filed Oct. 26, 1915.

1,234,629. Rat-Trap. Theodore Vanderbilt Clapp, Springfield, Mass. Filed April 3, 1917.

1,234,642. Combination Coal and Gas Range. Henry C. Dietrich, Evansville, Ind., assignor to Crescent Stove Works, Evansville, Ind. Filed July 31, 1916.

1,234,661. Door-Latch. Erskine Polk Harley, Fort Smith, Ark. Filed May 9, 1917.

1,234,696. Butt-Hinge. Herman Fleischer, New Britain, Conn., assignor to The Stanley Works, New Britain, Conn. Filed April 22, 1915.

1,232,484. Water-Heating Device. Mary F. Bishop, Philadelphia, Pa. Filed April 2, 1917.

1,232,539. Rake. Willie C. Harrison, Arrowsmith, Ill. Filed Feb. 6, 1917.

1,232,803. Window-Screen. Grant L. Housteau, Youngstown, Ohio. Filed Jan. 15, 1917.

1,232,827. Collapsible Pail. Samuel A. Milbauer, New York, N. Y. Filed March 16, 1917.

1,233,150. Bucket or Pail. Harrison B. Walter, Danville, Ill. Filed Nov. 18, 1914.

1,233,207. Christmas-Tree Holder. Henry Elbe, Brooklyn, N. Y. Filed Sept. 8, 1916.

1,233,312. Garbage-Receptacle Closure. Charles B. Clements, Washington, D. C. Filed Oct. 18, 1916.

1,233,530. Skylight. Charles O. Whitnell, Kingsley, Iowa. Filed April 24, 1916.

1,233,795. Flame-Covering Device. George G. Krebs, Atlantic City, N. J. Filed March 13, 1917.

WEEKLY REPORT OF TRADE AND THE MARKETS

GOVERNMENT BUYING OF IRON AND STEEL CONTRASTS WITH INACTIVITY OF PRIVATE BUYERS.

The chief feature of the market during the past week has been the active buying of iron and steel products by the Government in contrast with the continued abstention of private buyers. In some of the buying, prices are stipulated, but for the most part they will be fixed later. There is still very little change in the view that present conditions are likely to last for some time, and the steel trade will not suffer if in the meantime some of the price peaks come off. With the intimation that the inquiry into the steel-making costs will take longer than was expected, are signs of a more reasonable attitude at Washington as to the prices to be paid for steel products.

Since the Federal Trade Commission's report of steel costs appears to be a matter of months in the future, new questions relating to prices on future deliveries, both for the Government and outside trade, are being raised. Provisos in Government orders for material not previously arranged for, stating that prices stipulated are subject to later adjustment, have caused some makers to declare that a distinction should be made between shipped and unshipped tonnage. Private buyers have been endeavoring to commit the mills to a policy of protection against price decline on unshipped tonnage, but the latter have refused to extend such a privilege and are insisting that all purchases be made on a close basis.

With the closing of the most eventful of the three war years in the iron and steel industry, the contrast between the underlying market conditions of the past and those now developing is drawn more sharply. The relation of supply and demand, which since August 1, 1914, has raised prices from 250 to 800 per cent, has been modified by an entirely new set of circumstances. The open market of the world has been narrowed by an export embargo. The National Government has been transformed from a practically disinterested factor to the dominant one, both in the acquirement of tonnage and in the control of prices. The heavy purchasing volume of the Allies, which was one of the chief price stimulants of the past three years, is to be co-ordinated with that of this country, and probably will be subject to similar price consideration. With these conditions the market is characterized by a spirit of re-adjustment—new buying and price advances continue under check and a waiting situation generally prevails.

STEEL.

The market on soft steel bars in Chicago remains unchanged, with mills offering no material and consumers for the most part recognizing the situation and avoiding inquiry. Practically nothing is being booked by steel makers except bars required in Government work, and the market remains nominal. Hard steel bars continue to be quoted on a basis of 4 to 4.50 cents, Chicago mill, with most sales at the maximum figure. Government requirements of steel plates are being placed in much larger volume than had been expected, and such promptness in delivery is being demanded that almost nothing is being shipped to private consumers. This situation is causing some inconvenience to users of steel plate and it is practically impossible to reach a quotation under the existing circumstances. Little business is being done in the shape market, although Government demands are assuming definite form. The price situation remains unchanged.

COPPER.

The situation in the copper trade has improved during the week and inquiries have been more numerous. It is said that foreign governments have abandoned their efforts to obtain the metal at 25 to 26 cents per pound and that they will come into the market as buyers at regular quoted prices. The conditions in the market are still unsettled and highly divergent prices are being quoted. The prices on Electrolytic may be quoted nominally as follows: Spot and nearby, 29 to 30 cents; September and fourth quarter, 27 to 29 cents. Prime Lake copper for prompt shipment is holding nominally at 29½ to 30 cents and casting copper is quoted at 25¾ to 26½ cents. Chicago warehouses have decreased prices on sheet copper 2 cents a pound, the quotation now being 36 cents.

TIN.

The tin market also shows greater activity and advances at London have been reflected in the advance in the New York market of about ¼ of a cent per pound in all positions. The scarcity of spot Straits is so pronounced that the arrival of several thousand tons at the port of New York has been entirely inadequate to meet the demand. Spot Straits may now be quoted nominally at 63½ to 63¾ cents. Futures have shown a constantly hardening tendency owing to the difficulty of the contracting, and while about the middle of the past month tin to arrive in December could have been bought at 55½ cents, that delivery is now difficult to contract for at 58½ cents.

LEAD.

The lead market has been firm during the week, with but little fluctuation of prices. The strike situation in the Missouri mining camps continues to be a strengthening factor. There is evidently very little in dealers' hands and consumers seem to be holding off

awaiting the fixing of prices by the authorities in Washington. Leading producers are quoting about 10⅞ cents, St. Louis, on current contracts and the outside market is holding at 10⅜ to 10⅝ cents.

SOLDER.

Solder prices remain the same as those quoted in the July 28th issue of AMERICAN ARTISAN AND HARDWARE RECORD, and are as follows: XXX Guaranteed, ½ & ½, 39 cents; Commercial, ½ & ½, 37 cents; Number 1 Plumbers', 35 cents.

SPELTER.

It is reported that while there are no quotable changes in spelter prices, the market continues firm and the interest displayed is in marked contrast with the dullness prevailing in the first half of July. Prime Western spelter has been in fair demand for practically all positions. Second hands have little metal left and the producers generally have taken a firm stand. As a result, little spelter is available at this time under 8½ cents, St. Louis, for prompt and August shipment. September spelter is quoted at about 8½ to 8⅝ cents and last quarter 8⅝ cents. Brass special for prompt shipment is held nominally at 9 to 9¼ cents, St. Louis. During the week the Government purchased 23,250,000 pounds of high-grade spelter at an advance of 2 cents over its previous order of May, and this was accepted by producers as a favorable condition.

SHEETS.

Manufacturers of sheets have been called upon by the sub-committee on sheets of the American Iron and Steel Institute for about twice as much tonnage as they expected. Up to date, makers have received orders for 100,000 to 125,000 tons for miscellaneous purposes and inquiries are now pending for 5,000 tons for the navy. Since the shipping board controversy has been settled, it is likely that large quantities of sheets will be purchased for ships. The sheet mills are operating at maximum capacity, although the hot weather is beginning to affect rolling mill employes. The domestic market is quiet; some inquiry exists for extended delivery, but mill managers are refusing to sell for future shipment except at prevailing quotations. Chicago warehouses have advanced prices on blue annealed sheets 70 cents per hundred pounds, and 10-gauge blue annealed is now quoted at $10. One-pass, cold-rolled, black sheets have been advanced 25 cents, and 28 gauge is also quoted at $10. An advance of 75 cents per 100 pounds has been made on polished sheet steel, and 28 gauge is now $11. Smooth sheet steel has been advanced 50 cents per hundred pounds, 28 gauge now being quoted at $10.50.

TIN PLATE.

The Government is calling upon tin plate makers for material for large containers of various types. The export demand is heavy and it is announced that domestic as well as foreign consumers are urgently in the market for the last quarter of this year and the first of 1918. Some sales are reported to have been made at as high as $17 per base box for prompt shipment, while fourth-quarter deliveries have been made at $9.75 to $12 per base box. Chicago warehouses have advanced prices on first quality tin plate $2 per box, IC, 14x20 now being quoted at $18.60 and IXXXX, 14x20 at $25.40. Prices on coke plates have also been advanced $2.00 per box, and cokes, 180 pounds, 20x28, are now quoted at $31.80.

OLD METALS.

The decline in the iron and steel scrap, which has continued for some time, seems to have almost reached its low point, although some products are still seeking lower price levels. Various signs indicate that quotations will not fall beyond the present level, and that a reaction may be expected, which some observers believe may carry the market beyond the high point reached last Spring. During the week, a number of items were steady at firmer quotations, while others declined from 15 cents to $3.00 per ton. Wholesale dealers' quotations; which may be considered nominal, are as follows: Old steel axles, $46.00 to $48.00; old iron axles, $46.00 to $48.00; steel springs, $39.00 to $40.00; Number 1 wrought iron, $35.00 to $36.00; Number 1 cast iron, $24.00 to $25.00, all net tons. Prices for non-ferrous metals are as follows, per pound: Light copper, 20 cents; light brass, 12½ cents; lead, 7¾ to 8¼ cents; zinc, 6 cents; cast aluminum, 22½ cents.

PIG IRON.

Although the hesitancy among pig iron buyers is being slowly dispelled, the strength of the market has been proven by the insistent manner with which consumers are urging shipments. Frequent anticipations are attempted and monthly quotas are being followed up closely. A few districts have shown a moderate increase in the volume of buying and inquiry, but generally speaking, a waiting market among buyers and consumers remains. Easier prices continue to appear occasionally and the developments of the week have established the Bessemer market at not over $55.00, valley, while lower prices are reported available. In Pittsburgh and in Valley territory lower prices in basic have been indicated, but no sales resulted. The makers in the Middle West, who last week adopted $55.00 furnace as their maximum on foundry, malleable and basic iron, have given their quotation a true market significance by accepting considerable tonnage on this basis. The Government has purchased iron for its own requirements at concessions.

Rogers, Brown & Company Market Report, Cincinnati, Ohio, August 4, 1917:

To a certain extent the slow movement of pig iron may be attributed to the large number of merchandise shipments now bearing the Government's label. These shipments necessarily take precedence over all others and it is natural that delays should occur in the movement of all ordinary freight.

The feeling that the Government will take any radical steps toward the regulation of prices is rapidly subsiding. It is recognized that in view of the vast amount of revenue that must be raised from industry, it will do nothing to react unfavorably on business in general. It is also predicted that the Government will pay fair prices for steel and that a hairline will not be drawn in estimating costs, as has been previously indicated by some authorities.

Current Hardware and Metal Prices.

AMERICAN ARTISAN AND HARDWARE RECORD is the only publication containing Western Hardware and Metal prices corrected weekly.

METALS.

PIG IRON.

Basic	$55 00
Northern Fdy., No. 2	55 00
Southern Fdy., No. 2	$50 00- 54 00
Lake Sup. Charcoal	59 50- 62 00
Malleable	55 00

FIRST QUALITY BRIGHT TIN PLATES.

		Per Box
IC	14x20	$18 60
IX	14x20	20 55
IXX	14x20	22 50
IXXX	14x20	23 90
IXXXX	14x20	25 40
IC	20x28	35 20
IX	20x28	39 10
IXX	20x28	43 00
IXXX	20x28	45 90
IXXXX	20x28	48 80

COKE PLATES.

Cokes, 180 lbs	20x28		$31 80
Cokes, 200 lbs	20x28		32 00
Cokes, 214 lbs	IC 20x28		32 50
Cokes, 270 lbs	IX 20x28		35 00

BLUE ANNEALED SHEETS.

No. 10 per 100 lbs.	$10 00
No. 12 per 100 lbs.	10 05
No. 14 per 100 lbs.	10 10
No. 16 per 100 lbs.	10 20

ONE PASS COLD ROLLED BLACK

No. 18-20 per 100 lbs.	$9 80
No. 22-24 per 100 lbs.	9 85
No. 26 per 100 lbs.	9 90
No. 27 per 100 lbs.	9 95
No. 28 per 100 lbs.	10 00

GALVANIZED

No. 16 per 100 lbs.	$11 00
No. 18-20 per 100 lbs.	11 15
No. 22 24 per 100 lbs.	11 30
No. 26 per 100 lbs.	11 45
No. 27 per 100 lbs.	11 60
No. 28 per 100 lbs.	11 75
No. 30 per 100 lbs.	12 25

POLISHED SHEET STEEL.

No. 24 per 100 lbs.	$10 80
No. 26 per 100 lbs.	10 85
No. 27 per 100 lbs.	10 90
No. 28 per 100 lbs.	11 00

SMOOTH SHEET STEEL.

	Per 100 lbs.
Wood's Smooth No. 20	$10 25
" " No 22-24	10 30
" " No 25-26	10 35
" " No. 27	10 40
" " No. 28	10 50

PATENT PLANISHED SHEET IRON.

Patent Planished Sheet Iron, 100 lbs., base No. 28 ..... $13 75

SOLDER.

XXX Guaranteed ½ & ½	per lb,	39c
ommercial ½ & ½	"	37c
No. 1 Plumbers	"	35c

SPELTER

In Slabs 10c

SHEET ZINC.

Cask lots	$22 00
Less than Cask lots	$22 50 to $23 00

COPPER.

Copper sheet, base 36c

LEAD.

American Pig	$11 50
Bar	12 00
National (White) brands (in less than 100 lb. lots), per lb.	11c

Sheet.

Full coils	per 100 lbs.	$13 25
Cut coils	per 100 lbs.	13 50

ALUMINUM

Carload lots.

No. 1 Pure Ingot	per lb.	$0 60
Sheets	"	75

TIN.

Pig tin	per lb.	69c
Bar tin	"	70c

HARDWARE.

ADZES.

Carpenters'.

Plumbs	15%

Coopers'.

Barton's	15%
White's	15%

Railroad.

Plumbs	20%

AMMUNITION.

Caps, Percussion—per 1,000.

F. L., Waterproof, 1-10s	32%
G. D	32%
Musket	32%

Shells, Loaded—

Loaded with Black Powder	32%
Loaded with Smokeless Powder, medium grades	32%
Loaded with Smokeless Powder, high grade	32%

Winchester:

Smokeless Repeater Grade	32%
Smokeless Leader Grade	32%
Black Powder	32%

U. M. C.

Nitro Club	32%
Arrow	32%
New Club	32%

Gun Wads—per 1000

Winchester 7-8 gauge	$2 25
" 9-10 gauge	1 94
" 11-28 gauge	1 63

Powder.		Each
DuPont's Sporting, kegs		10 25
" " ½ kegs		5 40
" " ¼ kegs		2 85
DuPont's Canisters, 1-lb		56
" " ½-lb		32
" Smokeless drums		43 50
" " ½-kegs		11 25
" " 10-can drum		9 00
" " ¼-kegs		5 75
" " canisters		1 00
L. & R. Orange, Extra Sporting kegs		10 25
L. & R. Orange, Extra Sporting ½-kegs		5 40
L. & R. Orange, Extra Sporting ¼-keg		2 85
L. & R. Orange, Extra Sporting b. canisters		56
L. & R. Orange, Extra Sporting ½-lb. canisters		32
L. & R. Orange, Extra Sporting ¼-lb. canisters		22
Hercules "E. C." and "Infallible" 50 can drums		43 50
Hercules "E. C.," kegs		22 00
Hercules "E. C.," ½-kegs		11 25
Hercules "Infallible," 25 can drums		22 00
Hercules "Infallible," 10 can drums		9 00
Hercules "E.C.," ¼-kegs		5 75
Hercules "E.C." and "Infallible" canisters		1 00
Hercules W. A. .30 Cal. Rifle, canisters		1 25
Hercules Lightning Rifle, canisters		1 25
Hercules Sharpshooter Rifle, canisters		1 25
Hercules Unique Rifle, canisters		1 50
Hercules Bullseye Revolver, canisters		1 00

ANVILS.

Trenton, 70 to 80 lbs	9½c per lb.
Trenton, 81 to 150 lbs	9½c per lb.

ASBESTOS.

Board and Paper, up to 1/16"	17c per lb.
Thicker	18c per lb.

AUGERS.

Boring Machine	60%
Irwin's	25%
Carpenter's Nut	50&10%

Hollow.

Bonney's—list $30.00	75 & 5%
Stearns, No. 3	36 00

Post Hole.

Digwell, 8-inch per doz.	$12 50
Iwan's Post Hole and Well	35%
Vaughan's, 4 to 9-in. per doz.	8 25

Ship.

Ford's, with or without screw	25%
Snell's " " "	25%

AWLS.

Brad.

No. 3 Handled	per doz.	$0 50
No. 1050 Handled	"	1 05
Shouldered, assorted 1 to 4,	per gro.	4 00
Patent asst'd, 1 to 4	"	85

Harness.

Common	"	1 05
Patent	"	1 00

Peg.

Shouldered	"	1 60
Patent	"	75

Scratch.

No. 1 handled	per doz.	65
No. IS, socket han'ld.	"	1 35
No. 7 Stanley	"	1 95

AXES.

Boy's Handled.

Niagara	"	9 00

Broad.

Plumbs, West, Pat	List
" Can. Pat	$53 00
" Firemen's (handled), per doz.	$19 00

Single Bitted (handled).

Warren Silver Steel	14 00
Warren Blue Finished	13 00
Rough Rider	12 50
Perfect Premier, Forest Clipper	12 25

Single Bitted (without handles).

Warren Silver Steel	12 00
Warren Blue Finished	11 50
Rough Rider	11 00

Double Bitted (without handles).

Blood's Champion, 3½ to 4½ lb.	per doz.	14 75
Flint Edge	"	11 50
Perfect Premier	"	12 50

The above prices on axes of 3 to 4 lbs. are the base prices.
3½ to 4½ lbs. advance 25c.
4 to 5 lbs. advance 50c.
4½ to 5½ lbs. advance 75c.

BAGS, PAPER NAIL.

Pounds	10	16	20	25
Per 1,000	$2 50	3 75	4 50	5 00

BALANCES, SPRING.

Pelouze 20%

BARS, CROW.

Pinch or Wedge Point, per cwt. . $8 00

BASKETS.

Clothes.

Small Willow	per doz.	10 00
Medium "	"	11 00
Large "	"	13 00

Galvanized Iron.	½ bu.	1 bu.	1½ bu.
Per doz	$8 00	11 50	15 00

BEATERS.

Carpet.	Per doz.
No. 17 Tinned Spring Wire	$ 1 10
No. 18 Spring Wire coppered	1 40
No. 10 Preston	1 10

Egg.	Per doz.
No. 50 Imp. Dover	$ 1 10
No. 102 " " tinned	1 35
No. 150 " " hotel	2 10
No. 10 Heavy hotel tinned	2 10
No. 13 " " "	3 30
No. 15 " " "	3 60
No. 18 " " "	4 50

BELLOWS.

Blacksmiths' 40%

Hand.

	8	9	10	12
Per doz.	$8 00	9 00	10 00	12 75

Moulders'.

12-inch	Per doz. 15 00

BELLS.

Call.

3-inch Nickeled Rotary Bell, Bronzed base	per doz. $5 00

Cow.

High Grade	60%
Kentucky	35%

Door.	Per doz.
New Departure Automatic Rotary.	$7 50
3 -in. Old Copper Bell	5 00
3 -in. Old Copper Bell, fancy	7 00
3 -in. Nickeled Steel Bell	5 50
3½-in. Nickeled Steel Bell	6 00

Hand.

Hand Bells, polished	15%
White Metal	15%
Nickel Plated	10%
Swiss	15%
Silver Chime	10%

Miscellaneous.

Church and School, steel alloys	30%

Farm, lbs.	40	50	75	100
Each	$2 25	3 00	4 00	5 50

BEVELS, TEE

Stanley's, rosewood handle, new list	Nets
Stanley's iron handle	Nets

BINDING, OILCLOTH.

Zinc	65%
Brass	50&10%
Brass, plated	70&10%

BITS.

Auger.

Jenning's Pattern	40&10%
Ford's Car and Machine	30%
Ford's Ship	30%
Irwin	35%
Russell Jenning's	30%
Clark's Expansive	50&5%
Steer's " Small list, $22 00	25%
" " Large " $26 00	25%
Irwin Car	35&10%
Ford's Ship Auger pattern Car	30%

Center 10%

Countersink.

No. 18 Wheeler's	per doz.	$1	80
No. 20 "	"	2	40
American Snailhead	"	1	10
" Rose "	"	1	30
" Flat	"	1	20
Mahew's Flat	"	1	00
" Snail	"	1	50

Dowell.

Russell Jennings	30%

Gimlet.

Standard Double Cut		25%
German Pattern	per doz.	$0 75
German	"	80
Gouge	"	80
Spoon	"	15%
Countersink	"	1 30

Reamer.

Jenning's Square	"	2 50
Standard Square	"	2 00
American Octagon	"	1 75

Screw Driver.

No. 7 Common	"	75
No. 1 Triumph	"	1 25